



GO Rail Network Electrification Transit Project Assessment Process Environmental Project Report

October, 2017



MORRISON HERSHFIELD



Gannett Fleming

*Excellence Delivered **As Promised***

DISCLAIMER AND LIMITATION OF LIABILITY

The report dated October, 2017 ("**Report**"), which includes its text, tables, figures and appendices, has been prepared by Gannett Fleming Canada ULC ("**Gannett Fleming**") and Morrison Hershfield Limited ("**Morrison Hershfield**") ("**Consultants**") for the exclusive use of **Metrolinx**. The Consultants disclaim any liability or responsibility to any person or party other than Metrolinx for loss, damage, expense, fines, costs or penalties arising from or in connection with the Report or its use or reliance on any information, opinion, advice, conclusion or recommendation contained in it. To the extent permitted by law, the Consultants also excludes all implied or statutory warranties and conditions.

In preparing the Report, the Consultants have relied in good faith on information provided by third party agencies, individuals and companies as noted in the Report. The Consultants have assumed that this information is factual and accurate and has not independently verified such information except as required by the standard of care. The Consultants accept no responsibility or liability for errors or omissions that are the result of any deficiencies in such information.

The opinions, advice, conclusions and recommendations in the Report are valid as of the date of the Report and are based on the data and information collected by the Consultants during their investigations as set out in the Report. The opinions, advice, conclusions and recommendations in the Report are based on the conditions encountered by the Consultants at the site(s) at the time of their investigations, supplemented by historical information and data obtained as described in the Report. No assurance, representation or warranty is given with respect to any change in site conditions or the applicable regulatory regime subsequent to the time of the investigations. No responsibility is assumed to update the Report or the opinions, advice, conclusions or recommendations contained in it to account for events, changes or facts occurring subsequent to the date of the Report.

The Report provides a professional technical opinion as to its subject matter. The Consultants have exercised their professional judgment in collecting and analyzing data and information and in formulating advice, conclusions, opinions and recommendations in relation thereto. The services performed were conducted in a manner consistent with the degree of care, diligence and skill exercised by other members of the engineering and science professions currently practicing in similar conditions in the same locality performing services similar to those required under the **Contract for Technical and Professional Services relating to Engineering, Design and Environmental Assessment for GO Rail Corridor Electrification, Contract No. QBS-2014-IEP-002**, subject to the time limits and financial and physical constraints applicable to the services. No other assurance, warranty or representation whether expressed or implied is given to Metrolinx with respect to any aspect of the services performed, the Report or its contents.

TABLE OF CONTENTS

GLOSSARY OF TERMS.....	X
EXECUTIVE SUMMARY.....	XXIV
1 CONSULTATION.....	1
1.1 CONSULTATION STRATEGY	1
1.1.1 Integration with Regional Express Rail Consultation Activities	2
1.1.2 Stakeholder Engagement Methods/Tools/Activities.....	2
1.2 PRE-PLANNING PHASE CONSULTATION	6
1.2.1 Online Engagement.....	6
1.2.2 Public Consultation	7
1.2.3 Indigenous Communities Consultation.....	54
1.2.4 Property Owners Consultation	64
1.2.5 Review Agency Consultation.....	66
1.2.6 Elected Officials.....	138
1.2.7 Draft Environmental Project Report Circulation.....	143
1.3 TPAP PHASE CONSULTATION	454
1.3.1 Notice of Commencement.....	454
1.3.2 Online Engagement.....	458
1.3.3 Public Consultation	458
1.3.4 Review Agency Consultation.....	496
1.3.5 Elected Officials.....	562
1.4 NOTICE OF COMPLETION	564
1.5 30-DAY PUBLIC REVIEW PERIOD	567
1.6 35 DAY MINISTER REVIEW PERIOD	568

List of Tables

Table E- 1: Summary of Public Notices Published.....	xxvi
Table 1-1: Summary of Public Notices Published	5
Table 1-2: Summary of Public Meeting Round One Advertisements	7
Table 1-3: Public Meeting Round One Locations & Dates	8
Table 1-4: Summary of Pre-Planning Phase Public Comments Received (February/March 2016 – October 2016).....	13
Table 1-5: Summary of Public Meeting Round Two Advertisements	25
Table 1-6: Public Meeting Round Two Locations & Dates	27
Table 1-7: Summary of Pre-Planning Phase Public Comments Received (October/November 2016 – Notice of Commencement (June 14 2017)).....	33

Table 1-8: Correspondence Provided to Aboriginal Communities	55
Table 1-9: Pre-Planning Phase Municipal Meeting Dates.....	74
Table 1-10: Pre-Planning Phase City of Toronto Meetings	81
Table 1-11: Third Party Utility Owner Teleconference/Meeting Log	92
Table 1-12: Summary of Pre-Planning Phase Review Agency Comments Received.....	99
Table 1-13: List of Review Agencies & Aboriginal Communities Who Received the Draft EPR for Review	143
Table 1-14: Review Agency and Indigenous Draft EPR Comment Response Follow-up.....	149
Table 1-15: Canadian Environmental Assessment Agency Draft EPR Comments and Responses	156
Table 1-16 Health Canada Draft EPR Comments and Responses	159
Table 1-17: Parks Canada Draft EPR Comments and Responses	160
Table 1-18: Transport Canada Draft EPR Comments and Responses	181
Table 1-19: Ministry of Economic Development and Growth Draft EPR Comments and Responses	185
Table 1-20: Ministry of Natural Resources and Forestry Draft EPR Comments and Responses	186
Table 1-21: Ministry of the Environment and Climate Change Draft EPR Comments and Responses.....	190
Table 1-22: Ministry of Tourism Culture and Sport Draft EPR Comments and Responses.....	232
Table 1-23: Ministry of Transportation Draft EPR Comments and Responses	245
Table 1-24: Ontario Power Generation Draft EPR Comments and Responses	248
Table 1-25: City of Barrie Draft EPR Comments and Responses.....	249
Table 1-26: City of Brampton Draft EPR Comments and Responses	261
Table 1-27: City of Burlington Draft EPR Comments and Responses	263
Table 1-28: City of Markham Draft EPR Comments and Responses.....	264
Table 1-29: City of Mississauga Draft EPR Comments and Responses	276
Table 1-30: City of Oshawa Draft EPR Comments and Responses	281
Table 1-31: City of Pickering Draft EPR Comments and Responses.....	285
Table 1-32: City of Toronto Draft EPR Comments and Responses	287
Table 1-33: City of Vaughan Draft EPR Comments and Responses	341
Table 1-34: County of Simcoe Draft EPR Comments and Responses	355
Table 1-35: Region of Durham Draft EPR Comments and Responses	356
Table 1-36: Region of Halton Draft EPR Comments and Responses.....	362
Table 1-37: Region of Peel Draft EPR Comments and Responses.....	365
Table 1-38: Region of York Draft EPR Comments and Responses	366
Table 1-39: Town of Aurora Draft EPR Comments and Responses	368
Table 1-40: Town of Bradford West Gwillimbury Draft EPR Comments and Responses	370
Table 1-41: Town of East Gwillimbury Draft EPR Comments and Responses	373
Table 1-42: Town of Innisfil Draft EPR Comments and Responses.....	374
Table 1-43: Town of Newmarket Draft EPR Comments and Responses.....	379
Table 1-44: Town of Oakville Draft EPR Comments and Responses.....	382

Table 1-45: Town of Whitby Draft EPR Comments and Responses	384
Table 1-46: Town of Whitchurch-Stouffville Draft EPR Comments and Responses	386
Table 1-47: Township of King Draft EPR Comments and Responses	387
Table 1-48: Central Lake Ontario Conservation Authority Draft EPR Comments and Responses	391
Table 1-49: Credit Valley Conservation Authority Draft EPR Comments and Responses	393
Table 1-50: Halton Region Conservation Authority Draft EPR Comments and Responses	395
Table 1-51: Lake Simcoe Region Conservation Authority Draft EPR Comments and Responses	404
Table 1-52: Toronto and Region Conservation Authority Draft EPR Comments and Responses	416
Table 1-53: Huron-Wendat First Nation Draft EPR Comments and Responses	426
Table 1-54: Huron-Wendat First Nation Draft EPR Comments and Responses (Stage 1 Archaeology Assessment Report)	432
Table 1-55: Mississaugas of the New Credit First Nation Draft EPR Comments and Responses	437
Table 1-56: Mississaugas of Scugog Island First Nation Draft EPR Comments and Responses	439
Table 1-57: Canadian Pacific Railway Draft EPR Comments and Responses	443
Table 1-58: Fort York National Historic Site Draft EPR Comments and Responses	445
Table 1-59: Greater Toronto Airports Authority Draft EPR Comments and Responses	446
Table 1-60: NavCanada Draft EPR Comments and Responses	448
Table 1-61: Ontario Power Generation Draft EPR Comments and Responses	452
Table 1-62: Toronto Transit Commission Draft EPR Comments and Responses	453
Table 1-63: Notice of Commencement Newspaper Advertisement Dates	454
Table 1-64: Public Meeting Round Three Locations & Dates	461
Table 1-65: Summary of TPAP Phase Public Comments Received (June 14 2017 – October 11 2017)	466
Table 1-66: Summary of TPAP Phase Review Agency Comments Received	505
Table 1-67: Stakeholder Meetings Cultural Heritage & Archaeology Updates	551
Table 1-68: Stakeholder Consultation – Credit River Bridge CHER	554
Table 1-69: Stakeholder Consultation – Drury Lane Pedestrian Bridge CHER	555
Table 1-70: Stakeholder Consultation – Dundas Street West Bridge CHER	555
Table 1-71: Stakeholder Consultation – Gardiner Expressway Overhead CHER	556
Table 1-72 Stakeholder Consultation – Holland River Bridge CHER	557
Table 1-73: Stakeholder Consultation – Innes Avenue Pedestrian Bridge CHER	557
Table 1-74: Stakeholder Consultation – Islington Avenue Bridge CHER	558
Table 1-75: Stakeholder Consultation – Joshua Creek, Sixteen Mile Creek and Bronte Creek Bridges CHER	558
Table 1-76: Stakeholder Consultation – Portland Street Pedestrian Bridge CHER	559
Table 1-77: Stakeholder Consultation – Portland Street Pedestrian Bridge CHER	559
Table 1-78: Stakeholder Consultation – Hillside Topiary Signs CHER	560
Table 1-79: Stakeholder Consultation – Willowbrook Maintenance Facility CHER	561
Table 1-80: Notice of Completion Newspaper Advertisements	564

Table 1-81: Final EPR & Appendices Viewing Locations	567
--	-----

List of Figures

Figure 1: February 16, 2016, Public Meeting in Scarborough.....	12
Figure 2: February 17, 2016, Public Meeting in Aurora	12
Figure 4: November 24, 2016, Public Meeting in Vaughan	29
Figure 3: November 9, 2016, Public Meeting in Toronto	29
Figure 6: November 23, 2016, Public Meeting in Aurora	31
Figure 5: November 17, 2016, Public Meeting in Markham	31
Figure 7: November 21, 2016, Public Meeting in Barrie.....	31
Figure 8: November 28, 2016, Public Meeting in Scarborough.....	31
Figure 9: June 29, 2017, Public Meeting in Toronto	464
Figure 10: July 5, 2017, Public Meeting in Newmarket	464
Figure 11: Sample CHER Questionnaire	552

List of Appendices

- **Appendix A - Natural Environment Assessment Report:** is composed of two parts including *Part A1 - Natural Environment Baseline Conditions Report*, and *Part A2 - Natural Environment Impact Assessment Report*.
- **Appendix B – Preliminary Environmental Site Assessment (ESA) Reports:** is composed of two parts including: *Preliminary ESA Gap Analysis Report (Rail Corridors)*, and *Preliminary ESA Report (Taps & Traction Power Facilities)*.
- **Appendix C - Cultural Heritage Assessment Report:** is composed of two parts including *Part C1 – Cultural Heritage Screening Report*, and *Part C2 – Cultural Heritage Impact Assessment Report*.
- **Appendix D - Archaeological Assessment Report:** is composed of two parts including *Part D1 – Archeological Baseline Conditions Report*, and *Part D2 – Stage 1 Archaeological Assessment Report*.
- **Appendix E - Land Use and Socio-Economic Assessment Report:** is composed of two parts including *Part E1 – Land Use and Socio-Economic Baseline Conditions Report*, and *Part E2 – Land Use and Socio-Economic Impact Assessment Report*.
- **Appendix F - Air Quality Assessment Report:** is composed of two parts including *Part F1 – Air Quality Baseline Conditions Report*, and *Part F2 – Air Quality Impact Assessment Report*.
- **Appendix G - Noise and Vibration Modelling Reports:** is composed of six parts including *G1 – USRC Impact Assessment Report*, *G2 – LSW Impact Assessment Report*, *G3 – Kitchener Impact Assessment Report*, *G4 – Barrie Impact Assessment Report*, *G5 – Stouffville Impact Assessment Report*, *G6 – LSE Impact Assessment Report*
- **Appendix H - Visual Assessment Report:** is composed of two parts including *Part H1 – Visual Baseline Conditions Report*, and *Part H2 – Visual Impact Assessment Report*.
- **Appendix I - Utilities Report:** is composed of two parts including *Part I1 – Utilities Baseline Conditions Report*, and *Part I2 – Utilities Impact Assessment Report*.
- **Appendix J - Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report:** is composed of two parts including *Part J1 – EMI/EMF Baseline Conditions Report*, and *Part J2 – EMI/EMF Impact Assessment Report*.
- **Appendix K – Preliminary Stormwater Management Report (Traction Power Facility Sites):** summarizes the results of carrying out the preliminary Stormwater Management (SWM) Assessment for each of the Tap and Traction Power Facility sites; it is composed of: an overview of background data collected/reviewed, results of initial SWM analysis for each tap/traction power facility site, and recommendations for further work.
- **Appendix L - Consultation Record:** summarizes the consultation activities carried out by Metrolinx and Hydro One as part of the GO Rail Network Electrification TPAP including the various consultation events held, feedback/comments received from review agencies, Indigenous Communities, and other stakeholders including members of the public, and how those comments were considered as part of the TPAP.

- **Appendix M – Cultural Heritage Evaluation Reports (CHERs), Heritage Impact Assessment Reports (HIAs) and Statements of Cultural Heritage Value (SCHVs):** includes copies of the CHERs, HIAs and SCHVs carried out for various heritage properties as part of the GO Rail Network Electrification TPAP.
- **Appendix N - Conceptual electrification corridor plans.** Conceptual electrification corridor plans were developed to illustrate the Overhead Contact System (OCS) Impact Zone and Vegetation/Tree Removal Zone along each of the corridors to be electrified.
- **Appendix O - Conceptual Traction Power Facility Plans.** Conceptual Traction Power Facility Plans were developed to illustrate the Traction Power Facility sites and 25kV Feeder Routes.
- **Appendix P – P1: Mapping of Ecological Land Classification Areas and P2: Mapping of Terrestrial and Aquatic Features** along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix Q - Mapping of Identified Cultural Heritage Resources.** Mapping of Identified Cultural Heritage Resources within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix R - Mapping of Land Use Designations.** Mapping of Land Use designations along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix S - Mapping of Noise/Vibration Receptors and Recommended Locations for Noise/Vibration Mitigation.** Mapping of Noise and Vibration Receptors that were examined in the Noise and Vibration modelling study, as well as areas where noise and vibration mitigation locations were identified along each rail corridor within the GO Rail Network Electrification Study Area have been included reference.
- **Appendix T - Mapping of Viewsheds and Potential Visual Impact Areas.** Mapping of viewsheds and potential visual impact areas along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix U – List of Technical Reports and Studies Reviewed.** Contains a list of the various technical reports/studies that were reviewed as part of carrying out the TPAP.
- **Appendix V – Groundwater Assessment Report.** Summarizes the results of carrying out the preliminary groundwater assessment, including potential groundwater effects and effects on wells.

Glossary of Terms

Term	Definition
230 kV Aerial Connection	Overhead electrical high voltage connection line from the existing Hydro One tap to the new traction power substation (TPS).
AAQC	The acronym for the Province of Ontario's Ambient Air Quality Criteria.
AC	Alternating Current. Alternating Current is an electric current in which the flow of electric charge periodically reverses direction, whereas in direct current (DC, also dc), the flow of electric charge is only in one direction.
AFP	Alternative Financing and Procurement. An AFP model brings together private and public sector expertise in a unique structure that transfers the risk of project cost increases and scheduling delays typically associated with traditional project delivery.
AG	Agriculture as defined by the Ecological Land Classification System.
ANSI	Area of Natural and Scientific Interest.
APTA	APTA stands for American Public Transportation Association.
Area of Potential Environmental Concern (APEC)	An area within the Study Area where one or more contaminants are potentially present, as determined through the Contamination Overview Study including identification of past or present land uses of concern and/or identification of a Potentially Contaminating Activity (PCA).
AREMA	American Railway Engineering and Maintenance-of-Way Association. AREMA is the organization that represents the engineering function of the North American railroads.
Autotransformer	Apparatus which helps boost the overhead contact system (OCS) voltage and reduce the running rail return current in the 2 X 25 kV autotransformer feed configuration. It is a single winding transformer having three terminals. The intermediate terminal located at the midpoint of the winding is connected to the rail and the static wires, and the other two terminals are connected to the catenary and the negative feeder wires, respectively.
Bare wires	Conductive wires which do not have insulation. These wires may be solid or stranded and are normally self-supporting.
Best Practices	Professional procedures that are accepted or prescribed as being correct or most effective.
Bonding	A low impedance path obtained by permanently joining all normally-non-current carrying conductive parts to ensure electrical continuity and having the capacity to conduct safely any current likely to be imposed on it.
CA	Acronym for Conservation Authority.
CAAQS	Canadian Ambient Air Quality Standards.
Cantilever	A beam that is supported by a pole at only one end and carries the load of the electrification equipment on top of tracks. At multiple track locations where cantilever frames are not practical, portal structures should be utilized.

Catenary System	An assembly of overhead wires consisting of, as a minimum, a messenger wire, carrying vertical hangers that support a solid contact wire which is the contact interface with operating electric train pantographs, and which supplies power from a central power source to an electrically-powered vehicle, such as a train.
CEAA	Canadian Environmental Assessment Act.
CGL	Green Lands as defined by the Ecological Land Classification System.
Ch	The contraction of Chainage, measurement in kilometres along the rail corridors, starting at the center of Union Station and radiating outwards along the corridors.
Circuit	A conductor or system of conductors which form an electrical section between two switching points.
Class EA	Under the Ontario Environmental Assessment Act (EA Act), Class Environmental Assessments are those projects that are approved subject to compliance with an approved class environmental assessment process (e.g., Class EA for Minor Transmission Facilities, GO Transit Class EA, etc.) with respect to a class of undertakings.
CLOCA	Central Lake Ontario Conservation Authority.
Combustion	The chemical process where a substance reacts with oxygen to release energy.
Combustion Emissions	The emissions released from the combustion of fossil fuels. These include carbon dioxide (CO ₂), carbon monoxide (CO), oxides of nitrogen (NO _x), particulate matter, and volatile organic compounds (VOCs).
Conceptual Design	The conceptual design phase of a project is defined as the first design stage. This stage includes creating ideas and taking into account the pros and cons of those ideas. This is done to minimize project risks and evaluate the overall potential success of the project.
Conditional Heritage Property	A property, including buildings and structures on the property, that is determined to potentially have cultural heritage value or interest and that is not owned by Metrolinx.
Contact Wire	A solid grooved, bare aerial, overhead electrical conductor of an overhead contact system (OCS) that is suspended above the rail vehicles and which supplies the electrically powered vehicles with electrical energy through roof-mounted current collection equipment - pantographs - and with which the current collectors make direct electrical contact.
Control Centre	The building or room location that is used to dispatch trains and control the train and maintenance operations over a designated section of track.
Control Point	An established coordinate location for a physical feature. Control points are used as the basis for improving the spatial accuracy of all other points to which they are connected and for generating other points within an established distance or area around the control point.
COS	Contamination Overview Study.
COSEWIC	Committee on the Status of Endangered Wildlife in Canada.
COTS	Commercial Off-the-Shelf.

Cross Bonds	The method of tying tracks together electrically to equalize traction return currents between tracks. This is done to minimize touch potential.
Cross Feeding System	Overhead feeder lines are provided between the main gantry and strain gantry across the electrified track to feed power to the overhead contact system (OCS) wires.
Cultural Heritage Evaluation Report (CHER)	A report prepared by, or with advice from a qualified heritage professional, who gathered and recorded, through research, site visits and public engagement, enough information about the property to sufficiently understand and substantiate its cultural heritage value.
Cultural Heritage Resource (CHR)	Includes archaeological resources, built heritage resources and cultural heritage landscapes.
Cultural Heritage Screening Report (CHSR)	A report prepared with advice by a qualified person who gathered and recorded, through research, site visits and public engagement enough information about the study area to identify those properties that have potential or known cultural heritage value.
Cultural Heritage Value or Interest (CHVI)	Cultural heritage value or interest: means the cultural heritage value or interest of a property determined in accordance with the “Criteria for Determining Cultural heritage value or interest” set out in Ontario Regulation 9/06 made under the Ontario Heritage Act or, in respect of properties of provincial significance, determined in accordance with the “Criteria for Determining Cultural Heritage Value of Provincial Significance” set out in Ontario Regulation 10/06 made under the Ontario Heritage Act and, for archaeological resources, means the cultural heritage value or interest of any archaeological resource as determined in accordance with the Standards and Guidelines for Consultant Archaeologists prepared and published by MTCS under the Ontario Heritage Act.
CUM	Cultural Meadow as defined by the Ecological Land Classification System.
CUW	Cultural Woodland as defined by the Ecological Land Classification System.
CV	Constructed Lands as defined by the Ecological Land Classification System.
CVC	Commercial and Institutional Lands as defined by the Ecological Land Classification System.
CVC Authority	Credit Valley Conservation Authority.
CVI	Transportation and Utilities as defined by the Ecological Land Classification System.
CVR	Residential Lands as defined by the Ecological Land Classification System.
Data Gap Analysis	An analysis conducted on previously available studies and research to see what information is missing in order to determine what requires further study.
dB/dBAa	A-weighted decibels, abbreviated dBA, or dBa, or dB(a), are an expression of the relative loudness of sounds in air as perceived by the human ear. In the A-weighted system, the decibel values of sounds at low frequencies are reduced, compared with unweighted decibels, in which no correction is made for audio frequency.
Deadhead Movements	Deadhead movements are considered to be empty train movements required to reposition a train before or after revenue service. (Revenue

	service entails train movements that carry fare paying passengers). Deadhead movements are also referred to as “unproductive moves” as they incur the costs of train operations, but are not offset by any revenue from passengers.
Detailed Design	The Detailed Design phase of a project is defined as the phase of the project where design is refined past the conceptual phase, when plans, specifications, and estimates are created. This will take place after the TPAP is completed and before the construction phase.
DFO	Department of Fisheries and Oceans.
Disconnect Switches	An electrical switch for disconnecting electrical power from a line section.
Distribution Line (DL)	Electrical line conveying electricity at voltages less than 50kV.
DMU	Diesel Multiple Unit; a train comprising single self-propelled diesel units.
Double Stacked Freight (DSF)	Freight trains carrying double stack containers.
Duct Bank	A duct bank is an assembly of electrical conduits that are either directly buried or encased in concrete. The purpose of the duct bank and associated conduit is to protect and provide defined routing of electrical cables and wiring. It also provides physical separation and isolation for the various types of cables.
ELC	Ecological Land Classification. The system in place in Ontario for defining ecological units on the basis of bedrock, climate, physiology, and vegetation.
Electric Traction Facility	A traction substation, paralleling station, or switching station.
Electrical Potential	A measurement of the voltage (or potential difference) between two points in a system. For UP Express electrification, electrical potential is the electrical charge difference between the electrified UP Express railway and the ground. The unit for electrical potential is expressed in volts.
Electrical Section	This is the entire section of the overhead contact system (OCS) which, during normal system operation, is powered from a traction power substation (TPS) circuit breaker. The TPS feed section is demarcated by the phase breaks of the supplying TPS and by the phase breaks at the nearest SWS or line end. An electrical section may be subdivided into smaller elementary electrical sections.
Elementary Electrical Section	The smallest section of the overhead contact system (OCS) power distribution system that can be isolated from other sections or feeders of the system by means of disconnect switches and/or circuit breakers.
ELF	Extremely Low Frequency. ELF is the International Telecommunication Union (ITU) designation for electromagnetic radiation (radio waves) with frequencies from 3 to 30 Hz, and corresponding wavelengths from 100,000 to 10,000 kilometers.
EMC	Electromagnetic Compatibility. Electromagnetic compatibility is the ability of a device, equipment, or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.

EMF	Electric and Magnetic Field. Electric and magnetic fields arise from natural forces and permeate our environment. In addition to natural background EMF, anthropogenic sources include electric fields which arise anywhere electricity or electrical components are used and magnetic fields which arise wherever there is a flow of electric current. Common manmade sources of EMF include: electronics, power stations, transmission lines, telecommunication infrastructure, electric motors, etc. The strength of man-made EMF depends on the characteristics of the source including amongst others, voltage, current strength and frequency.
EMI	Electromagnetic Interference. Electromagnetic interference is a disturbance that affects an electrical circuit due to either electromagnetic induction or radiation from an external source.
EMI Noise	Unwanted electrical signals that produce undesirable effects in the circuits of the control system in which they occur.
EMU	Electric Multiple Unit; a train comprising single self-propelled electric units.
END	Endangered, a designation for a Species at Risk.
EPR	Environmental Project Report. The proponent is required to prepare an Environmental Project Report to document the Transit Project Assessment Process followed, including but not limited to: a description of the preferred transit project, a map of the project, a description of existing environmental conditions, an assessment of potential impacts, description of proposed mitigation measures, etc. The EPR is made available for public review and comment for a period of 30 calendar days. This is followed by a 35-day Minister's Decision Period.
ESA	Environmentally Significant Area. These are natural areas which are particularly significant or sensitive requiring additional protection to preserve their environmental qualities and significance.
ESA, 2007	The <i>Ontario Endangered Species Act, 2007</i> .
ESAs	Environmental Site Assessments. The study of a property to determine if contaminants are present and, if so, the location and concentration of these contaminants. This study includes a phase one environmental site assessment and where required a phase two environmental site assessment.
Feeder	A current-carrying electrical connection between the overhead contact system and a traction power facility (substation, paralleling station or switching station).
Flash Plate	A flash plate is a conductive plate installed above a bare energized wire and below reinforced concrete. The intent is to prevent 'flash over' which is where current finds its way into the reinforcing steel. Usually this is via water dripping, ice, or animals making the bridge between wire and concrete. The plate is bonded to the static wire.
FOD	Deciduous Forest as defined by the Ecological Land Classification System.
FOM	Mixed Forest as defined by the Ecological Land Classification System.
Fossil Fuels	A group of combustible materials that have been formed from decayed plants and animals. These materials are often used as fuel by combusting them to release energy. Fossil fuels include oil, coal, and natural gas.

FTA	FTA stands for Federal Transit Administration, a United States federal agency.
FWCA	Fish and Wildlife Conservation Act.
Gantry	The feeder wires from the traction power substation (TPS) will be connected to the overhead contact system (OCS) with the help of gantries. The main gantry (also referred to as the catenary feeding gantry) is the one parallel to the track and closest to the TPF. Gantries are also used for traction power distribution. The feeder wires from the facility will be connected to the OCS with the help of gantries.
GIS	Geographic Information Systems. GIS systems are designed to capture, store, visualize, manipulate, analyze, manage, and present spatial or geographical data.
Greenhouse Gases	Greenhouse gases are those gases that absorb infrared radiation emitted from the Earth thus containing the energy within the atmosphere. Total greenhouse gases are typically expressed as carbon dioxide equivalent (CO ₂ e), which is the total mass of CO ₂ that would have the same impact on climate change as a mixture of greenhouse gases.
Grounding	Connecting to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to limit the build-up of voltages to levels below that which may result in undue hazard to persons or to connected equipment.
Grounding Grid	A system of horizontal ground electrodes that consists of a number of interconnected, bare conductors buried in the earth, providing a common ground for electrical devices or metallic structures, usually in one specific location.
Heavy Maintenance	Heavy maintenance includes: replacement of engine traction motors, replacement of diesel engines on DMUs, replacement of transformers and ac propulsion systems on EMUs and replacement of wheel sets on engines. On railcars, heavy maintenance includes the replacement of wheel sets, repairs to windows and brake lines, and body repairs.
HiRail Vehicle	A road-rail vehicle which can operate both on rail tracks and a conventional road.
HRCA	Halton Region Conservation Authority.
HV	High Voltages, high voltages refers to electrical energy at voltages high enough to cause injury and harm to human beings and living species. Voltages over 1000 for alternating current, and 1500 V for direct current is considered high voltage.
Hydro One	Hydro One Incorporated delivers electricity across the province of Ontario. Hydro One has four subsidiaries, the largest being Hydro One Networks. They operate 97% of the high voltage transmission grid throughout Ontario.
ICNIRP	International Commission on Non-Ionizing Radiation Protection. The ICNIRP is an international commission specialized in non-ionizing radiation protection. ICNIRP is an independent nonprofit scientific organization chartered in Germany. It was founded in 1992 by the International Radiation Protection Association (IRPA) to which it maintains close relations.

Immunity	The ability of equipment to perform as intended without degradation in the presence of an electromagnetic disturbance.
Impedance Bonds	An electrical device located between the rails consisting of a coil with a centre tap used to bridge insulated rail joints in order to prevent track circuit energy from bridging the insulated joint, while allowing the traction return current to bypass the insulated joint. The centre tap can also be used to provide a connection from the rails to the static wire and/or traction power facilities for the traction return current.
Insulated Wires	Conductive wires which are covered in a layer of insulating material to provide protection that will increase safety and efficiency, and is used to stop the passage of electricity, heat, or sound from one conductor to another. These wires are normally supported on a weight-carrying messenger wire.
IPCC	The Intergovernmental Panel on Climate Change.
kV	Abbreviation for kilovolt (equal to 1000 volts).
LIO	Land Information Ontario.
LSRCA	Lake Simcoe Region Conservation Authority.
LV	Low Voltage, according to the International Electrotechnical Commission (IEC) voltages between 50-1000 V for alternating current, and between 120-1500 V for direct current is considered low voltage.
MA	Marsh as defined by the Ecological Land Classification System.
Main Gantry	These 25 kV feeders from the traction power facility (TPF) will be connected to the overhead contact system (OCS) with the help of main and strain gantries and a cross feeder arrangement. The main gantry also referred to as the catenary feeding gantry is the one parallel to and toward the TPF side of the track.
Maintenance Facility	A mechanical facility for the maintenance, repair, and inspection of engines and railcars.
MAM	Meadow Marsh as defined by the Ecological Land Classification System.
MAS	Shallow Marsh as defined by the Ecological Land Classification System.
MBCA	Migratory Birds Convention Act.
MEM	Mixed Meadow as defined by the Ecological Land Classification System.
Messenger Wire	In catenary construction, the overhead contact system (OCS) Messenger Wire is a longitudinal bare stranded conductor that physically supports the contact wire or wires either directly or indirectly by means of hangers or hanger clips and is electrically common with the contact wire(s).
Mi.	The contraction of Mileage, measurement in miles along the rail corridors. This is determined by historical corridor ownership and is not consistent throughout the network.
Mid-span	Area between two overhead contact system (OCS) registration points.
Milligauss	In electricity, a practical unit of magnetic induction equal to a thousandth of one gauss or of one c. g. s. electromagnetic unit.
Minister	Ontario Minister of the Environment and Climate Change.
Mitigation Measure	Actions that remove or alleviate, to some degree, the negative effects associated with the implementation of an alternative.

MNRF	Ontario Ministry of Natural Resources and Forestry.
Modelling	The process of using collected data and information to generate rational predictions regarding the future implementation of project components.
MOECC	Ontario Ministry of the Environment and Climate Change.
MTCS	Ontario Ministry of Tourism, Culture, and Sport is responsible for the administration of the Ontario Heritage Act and may determine policies, priorities and programs for the conservation, protection and preservation of Ontario's heritage.
MTO	Ontario Ministry of Transportation.
MVA	Megavolt-Ampere. This is a unit for measuring the apparent power in an electrical circuit equivalent of one million watts.
NAPS	National Air Pollution Surveillance program.
Negative Feeder	Negative feeder is an overhead conductor supported on the same structure as the catenary conductors, which is at a voltage of 25 kV with respect to ground but 1800 out-of-phase with respect to the voltage on the catenary. Therefore, the voltage between the catenary conductors and the negative feeder is 50 kV nominal. The negative feeder connects successive feeding points, and is connected to one terminal of an autotransformer in the traction power facilities (TPF) via a circuit breaker or disconnect switch. At these facilities, the other terminal of the autotransformer is connected to a catenary section or sections via circuit breakers or disconnects.
NEP	Niagara Escarpment Plan areas, part of the Greenbelt Plan.
Net Effect	The effect (positive or negative) associated with an alternative after the application of avoidance/mitigation/compensation/enhancement measures.
NHIC	Natural Heritage Information Centre.
NIHES	National Institute of Environmental Health Sciences, a division of the United States National Institute of Health (NIH).
Notice of Commencement	The Proponent is required to prepare and distribute a Notice of Commencement, which "starts the clock ticking" for the 120-day portion of the transit project assessment process. Proponents must prepare and distribute a Notice of Commencement to indicate that the assessment of a transit project is proceeding under the transit project assessment process. Proponents must complete their documentation (the Environmental Project Report) of the transit project assessment process within 120 days of distributing the Notice of Commencement.
Notice of Completion	The Notice of Completion must be given within 120 days of the distribution of the Notice of Commencement (not including any "time outs" that might have been taken). The Notice of Completion of Environmental Project Report signals that the Environmental Project Report has been prepared in accordance with section 9 of the regulation and indicates that the Environmental Project Report is available for final review and comment (for 30 calendar days). Following the 30-day public review period, there is a 35-day Minister's decision period.
OA	Open Water as defined by the Ecological Land Classification System.
OAQ	Open Aquatic Area

OBBA	Ontario Breeding Bird Atlas.
Ohms	Unit of electrical resistance. A low electrical resistance indicates a strong path which current can easily flow.
Ontario Heritage Act (OHA)	The Ontario Heritage Act provides the framework for provincial and municipal responsibilities and powers in the conservation of cultural heritage resources. See https://www.ontario.ca/laws/statute/90o18 .
OP	Municipal Official Plan.
Open Route	An area of tracks where there is no vertical conflicts to the overhead contact system (OCS).
ORMCP	Oak Ridges Moraine Conservation Plan.
ORRA	Ontario Reptile and Amphibian Atlas.
Overhead Contact System (OCS)	<p>The acronym for the Overhead Contact Systems (OCS), which is comprised of:</p> <ol style="list-style-type: none"> 1. The aerial supply system that delivers 2x25 kV traction power from traction power substations to the pantographs of Metrolinx electric trains, comprising the catenary system messenger and contact wires, hangers, associated supports and structures including poles, portals, head spans and their foundations), manual and/or motor operated disconnect switches, insulators, phase breaks, section insulators, conductor termination and tensioning devices, downguys, and other overhead line hardware and fittings. 2. Portions of the traction power return system consisting of the negative feeders and aerial static wires, and their associated connections and cabling.
Overhead Contact System (OCS) Impact Zone	The defined zone within which Overhead Contact System (OCS) infrastructure will be built (e.g., OCS foundations, portal/cantilever poles, etc.).
Overhead Structure	A structure that allows a road to cross over a railway underneath.
Overpass	A structure that allows a railway to cross over a road or watercourse underneath.
OWES	Ontario Wetland Evaluation System.
Pantograph	Device on the top of a train that slides along the contact wire to transmit electric power from the catenary to the train.
Paralleling Station (PS)	This type of traction power facility contains an autotransformer which helps support the overhead contact system (OCS) voltage in the electrified system.
Particulate Matter (PM)	Microscopic solid or liquid matter suspended in the atmosphere.
Performance Standards	General specifications and criteria that define the parameters and requirements of a particular system.
Phase Break	An arrangement of insulators and grounded or non-energized wires or insulated overlaps, forming a neutral section, which is located between two sections of overhead contact system (OCS) that are fed from different phases

	or at different frequencies or voltages, under which a pantograph may pass without shorting or bridging the phases, frequencies, or voltages.
Phase Break	An arrangement of insulators and grounded or non-energized wires or insulated overlaps, forming a neutral section, which is located between two sections of overhead contact system (OCS) that are fed from different phases or at different frequencies or voltages, under which a pantograph may pass without shorting or bridging the phases, frequencies, or voltages.
Pipeline	A line that is used or to be used for the transmission of oil, gas or any other commodity and that connects a province with any other province or provinces or extends beyond the limits of a province or the offshore area and includes all branches, extensions, tanks, reservoirs, storage facilities, pumps, racks, compressors, loading facilities, interstation systems of communication by telephone, telegraph or radio and real and personal property, or immovable and movable, and works connected to them, but does not include a sewer or water pipeline that is used or proposed to be used solely for municipal purposes.
Polycyclic Aromatic Hydrocarbons (PAH)	A group of compounds that contain only carbon and hydrogen and are composed of multiple aromatic rings. They are released from the burning of fuels.
Portal	Portal is an overhead contact system (OCS) structure that spans over the tracks between two OCS support poles located on the sides of the tracks in order to support the electrification equipment. The portal structure is used at multiple track locations where cantilever frames are not practical.
Portal Boom	Top steel section or truss/lattice at the top of the portal structure, supported by two columns placed either side of the railway. The “portal boom” provides support points for the overhead contact system (OCS) conductors.
Positive Train Control	A signaling system using on board and wayside equipment to automatically reduce the speed, or stop a train depending on the conditions on the track ahead.
Potential Effect	A possible or probable effect of implementing a particular alternative.
Potential Provincial Heritage Property (PPHP)	A property which has the potential to fulfill the requirements of a Provincial Heritage Property.
Potentially Contaminating Activity (PCA)	Use or activity at a site that has the potential to result in soil and/or groundwater contamination. Examples of PCAs are set out in Table 2, Schedule D of <i>O.Reg. 153/04</i> .
Preliminary Design	The design of a proposed project (including a detailed cost estimate) to a level that demonstrates that the project is buildable within the given parameters of the design scope.
Preventive Maintenance	Preventive maintenance includes items such as: replacing brake pads, measuring wheels, inspection of running gear, inspection and repair of central air conditioning, check radios and repair/replace, repair broken windows and doors, etc.

Proponent	A person who carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.
Provincial Heritage Property of Provincial Significance (PHPPS)	A provincial heritage property that has been evaluated using the criteria found in Ontario Heritage Act O. Reg. 10/06 and has been found to have cultural heritage value or interest of provincial significance.
Provincial Heritage Property (PHP)	A real property, including buildings and structures on the property, that has cultural heritage value or interest and that is owned by the Crown in right of Ontario or by a prescribed public body; or that is occupied by a ministry or a prescribed public body if the terms of the occupancy agreement are such that the ministry or public body is entitled to make the alterations to the property that may be required under these heritage standards and guidelines (Standards and Guidelines for Conservation of Provincial Heritage Properties, Ontario Heritage Act).
Provincially Significant Wetland (PSW)	Wetlands deemed by the province to be ecologically significant in nature and thus protected from all development activities.
Rail Potential	The voltage between running rails and ground occurring under operating conditions when the running rails are utilized for carrying the traction return current or under fault conditions.
Receptor	Locations, structures, or facilities that have the potential to be impacted by or interact with the project.
RER	Acronym for Rapid Express Rail. RER is the 10 year transit plan for the Greater Toronto Hamilton Area that is being implemented by Metrolinx. Electrification is a component of the RER plan.
Resilient Arm	A combined registration and support assembly with vertical resilience, used for support of catenary conductors in situations with restricted clearance such as tunnels and overhead bridges.
Resultant Flux Density	The mathematical computation from the combination of the measured X, Y, and Z readings of milligauss (mG). It could be approximated using a sum of squares of these readings and then taking the square root, but in the case of all readings shown in this report, the device used computed this number automatically and presented it as the Resultant Flux Density.
ROW	Right of Way, the portion of land adjacent to tracks owned by the Railway (Metrolinx, CP, CN, etc.). Can be synonymous with rail corridor.
Running Rails	Rails that act as a running surface for the flanged wheels of a car or locomotive.
SAR	Species at Risk. These are plants or animals that are considered by the Government of Ontario to be endangered, threatened, of special concern, or extirpated.
SARA	Species at Risk Act.
SC	Species Concern, a designation for a Species at Risk.
SCADA	System Control And Data Acquisition. SCADA is a control system that controls and monitors the status of the industrial processes and devices for the

	electrification system. These devices may include motor operated disconnect switch, relay, meter and circuit break, of the Electrification System.
Screening	The process of applying criteria to a set of alternatives in order to eliminate those that do not meet minimum conditions or requirements.
Secondary Voltage	Typically less than 750V.
Service Maintenance	Service maintenance is the light maintenance of engines (i.e., window cleaning, check oil levels and sand levels, clean engine cab, refill potable water, and empty washroom holding tanks).
Shield	As normally applied to instrumentation cables, refers to a conductive sheath (usually metallic) applied, over the insulation of a conductor or conductors, for the purpose of providing means to reduce coupling between the conductors so shielded and other conductors that may be susceptible to, or which may be generating, unwanted electrostatic or electromagnetic fields (noise).
Shielding	Shielding is the use of the conducting and/or ferromagnetic barrier between a potentially disturbing noise source and sensitive circuitry. Shields are used to protect cables (data and power) and electronic circuits. They may be in the form of metal barriers, enclosures, or wrappings around source circuits and receiving circuits. Additionally shielding is used to protect overhead transmission lines or overhead contact system (OCS) from incidents of lightning, in regions of high isoceraunic activity. Shield wire is located above the exposed current carrying wires to provide a 45 degree angle of protection. In sensitive applications, the angle is reduced to 30 degrees for more conservative design.
SHO	Open Shoreline as defined by the Ecological Land Classification System.
Signal System	The rail signal system is a combination of wayside and on board equipment and/or software to provide for the routing and safe spacing of trains or rail vehicles.
Signal Bridges	A structure for mounting signals that spans one or more tracks. Signal bridges may be footed on both ends, or they may be 'cantilever signal bridges', footed only on one end.
Spur	A railroad track that diverges from the main track to service a specific location or industry.
Static Wire	A wire, usually installed aerially adjacent to or above the catenary conductors and negative feeders, that connects overhead contact system (OCS) supports collectively to ground or to the grounded running rails to protect people and installations in case of an electrical fault.
Strain Gantry	These 25 kV feeders from the traction power facility (TPF) will be connected to the overhead contact system (OCS) with the help of main and strain gantries and a cross feeder arrangement. The strain gantry is located within the right-of-way (ROW) parallel to and on the opposite side of the track from the TPF, with footprints exactly equal to that of the main gantry.
Study Area	The study area references to geographic space that is being examined for the Metrolinx Network Electrification Environmental Assessment.

SW	Swamp as defined by the Ecological Land Classification System.
SWD	Deciduous Swamp as defined by the Ecological Land Classification System.
Switching Station (SWS)	Switching stations are traction power facilities that are required approximately mid-way between Traction Power Substations in order to split the electrical sections.
TAG	Treed Agriculture as defined by the Ecological Land Classification System.
THD	Deciduous Thicket as defined by the Ecological Land Classification System.
Third Rail	A third rail is a way of providing <u>electric power</u> to a railway train, through a semi-continuous rigid conductor placed alongside or between the rails of a <u>railway track</u> . Third rail systems are always supplied from <u>direct current</u> electricity as opposed to alternating current electricity.
THR	Threatened, a designation for a Species at Risk.
Top of Rail	Top of Rail is defined as the highest point in a running rail profile.
Touch/Step Potential	Touch potential is defined as the voltage between the energized object and the feet of a person in contact with the object. Step potential is defined as the voltage between the feet of a person standing near an energized grounded object.
Traction Power Return System	The traction power return system includes all conductors (including the grounding system) for the electrified railway tracks, which form the intended path of the traction return current from the electrified rolling stock to the traction power substations. Conductors may include: <ul style="list-style-type: none"> • Running rails • Impedance bonds • Static wires, and buried ground or return conductors • Rail and track bonds • Return cables, including all return circuit bonding and grounding interconnections • Ground • Negative feeders due to the configuration of autotransformer connections.
Traction Power Facility (TPF)	A general term to classify Traction Power Substations, Paralleling Stations, and Switching Stations.
Traction Power Substation (TPS)	Part of the power supply components of the system; it is a traction power facility (TPF) that transforms the utility supply voltage for distribution to the trains via overhead contact system (OCS).
Transmission Line (TL)	Electrical line conveying electricity at voltages more than 50kV.
Transmission Tap	The point at which electric power is ‘tapped’ from the existing Hydro One power source.
TRCA	Toronto and Region Conservation Authority.
Underground Feeder Connection	An underground conduit carrying electrical connection between the overhead contact system and a traction power facility (i.e., traction power substation, paralleling station or switching station).

Utility	A utility is an entity that generates, transmits and/or distributes electricity, water and/or gas from facilities that it owns and/or operates, including electrical transmission and distribution companies, communication companies, community antenna distribution systems and regional / municipal authorities.
View-shed	The area of visual influence of the project components.
Volatile Organic Compounds (VOCs)	A class of chemicals that contain carbon, hydrogen, and oxygen atoms and have high vapour pressures at room temperature, and therefore exist predominantly in the gas phase.
Wayside Power Control Cubicles (WPCs) and Signal Cases	A wayside installation that houses remote terminal unit (RTU) and dc power supply unit for motor operated disconnect switches at locations other than traction power facilities.
WOD	Woodland as defined by the Ecological Land Classification System.

Executive Summary

Metrolinx and Hydro One, as Co-Proponents, are carrying out the Transit Project Assessment Process (TPAP) under *O. Reg. 231/08* for the GO Rail Network Electrification Project (the Project). In support of this process, Metrolinx and Hydro One have conducted numerous consultation activities with various stakeholders during the Pre-Planning phase (Pre-Notice of Commencement), as well as during the 120 day TPAP phase (post Notice of Commencement) for the GO Rail Network Electrification project. These consultation efforts consisted of a number of activities designed to: meet the requirements of the regulation, engage a diverse set of participants, communicate the rationale for electrification, explain the infrastructure requirements for electrification, allow opportunities for interested persons to provide comments and feedback, educate and promote understanding regarding electrification, and provide key project information and updates.

The consultation process employed the following methods to engage interested stakeholders:

- Online engagement;
- Email updates and notifications through the electrification email address;
- Distribution of Information Packages;
- Three Rounds of Public Meetings totaling 30 meetings;
- Newspaper Advertisements;
- Meetings with Provincial and Federal Review Agencies;
- Meetings with Indigenous Communities;
- Meetings with Municipalities;
- Meetings with Conservation Authorities;
- City of Toronto Technical Advisory Committee Meetings;
- Meetings with Elected Officials;
- Meetings with Property Owners;
- Meetings with Other Stakeholders (e.g. transit authorities, utilities, etc.);
- Meetings with Community/Resident Groups;
- Circulation of the Draft Environmental Project Report to 80+ Review Agencies for review/comment before Notice of Commencement;
- Posting of the Draft EPR Appendices (technical/Environmental reports) publicly online prior to Notice of Commencement.

Consultation Strategy

Integration with Regional Express Rail (RER) Consultation Activities

Opportunities were sought to combine public consultation activities for the Electrification TPAP with other Metrolinx RER-related TPAPs/EAs in order to more efficiently present information on multiple, interrelated aspects of RER.

Stakeholder Contact List

At the onset of the project, a Stakeholder Contact List was established, based on previously completed Metrolinx TPAP/EA projects and the Ministry of the Environment and Climate Change (MOECC) Government Review Team List. The list consisted of the following stakeholder groups: members of the public, property owners, Indigenous communities, review agencies (federal, provincial, municipal and conservation authorities), elected representatives, utility companies, school boards, transit authorities, community/interest groups, and other rail operators. The contact list was maintained and updated throughout the project duration (see **Appendix L-1** for a copy of the contact list).

Notifications, email responses to comments, and information packages were sent out at key points in the project to individuals/stakeholders on this list to provide updated information about public meetings, TPAP timelines, public meetings, results of environmental studies, etc.

Online Engagement

Online engagement was carried out throughout the pre-planning Phase and the TPAP. Specifically, the Metrolinx Electrification website (www.gotransit.com/electrification/) was continually updated throughout the project to provide: information/updates on the project status; notifications of upcoming public open houses/meetings; contact information so interested parties could find project contacts and participate in the process/provide comments; links to copies of background reports, Draft EPR Appendix reports, and public meeting materials. It is also noted that the Metrolinx Engage website (www.metrolinxengage.com) provided a centralized location for interested stakeholders to learn more about a variety of Metrolinx initiatives and find out how they can participate and provide feedback. In addition, Electrification project information was posted on Metrolinx Engage via downloadable documents. Visitors were encouraged through the website to log in and provide comments and questions, which were forwarded to the project team for inclusion in comment summaries, as well as to share feedback via social media platforms (Twitter, Facebook, Instagram, etc.).

In addition, a direct link to the Metrolinx Electrification website was provided on Hydro One's website (www.HydroOne.com/GORailElectrification) so that interested persons could be redirected to this site to obtain information as required.

Twitter was also used by project staff to tweet important information regarding consultation events such as locations and times of public meetings, and to respond to questions raised by stakeholders.

The electrification email address (electrification@metrolinx.com) facilitated e-mail correspondence for the project, and was used to respond to stakeholder comments/questions as well as to provide stakeholders on the project contact list with project notifications.

Public Notices

Newspaper advertisements were published for all required notices, open houses and public meetings, in local newspapers with distribution in vicinity of the project study area. Notifications were also published online on the Electrification website in advance of public meetings and formal review periods. Multiple media streams such as Twitter, Facebook, website postings, email and mail outs were additionally used to ensure the accessibility of all public notices to interested stakeholders. As a government agency operating under the principles of the *French Language Services Act (FLSA)*, Metrolinx provided a French translation of all notices and newspaper ads for the project. Table E- 1 outlines the Notices published in support of the consultation.

Table E- 1: Summary of Public Notices Published

Phase	Notice Type	Date	Publication Location
Pre-Planning	Notice of Public Meeting – Round 1	February 1-5, 2016	Multiple Newspapers (See Section 1.2.2.1.2)
Pre-Planning	Notice of Brampton Meeting Rescheduling – Round 1	March 1, 2016	E-mails to stakeholders and review agency contacts, Twitter and Facebook
Pre-Planning	Notice of Public Meeting – Round 2	October 24, 2016 – November 2, 2016	Multiple Newspapers (See Section 1.2.2.2.1)
TPAP	Notice of Commencement	June 14, 2017	Multiple Newspapers (See Section 1.3.1)
TPAP	Notice of Public Meeting – Round 3	June 14, 2017	Multiple Newspapers (See Section 1.3.3.1)
TPAP	Notice of Completion	October 11, 2017	Multiple Newspapers (See Section 1.4)

Public Meetings

Three rounds of public meetings (30 meetings held total) occurred over the course of the project, with meeting locations spread around the Greater Toronto Hamilton Area (GTHA) to ensure sufficient geographic coverage of the project study area. The first two meeting rounds occurred prior to the issuance of Notice of Commencement (i.e., during the Pre-Planning Phase), and the third round followed the issuance of the Notice of Commencement.

A listing of all public comments received as a result of the public consultation period can be found in Section 1.2.2.1.3, Section 1.2.2.2.7 and Section 1.3.3.1.6

Public Meetings (Round One) – Pre-Planning Phase

The first round of public open houses were held between February 16 and March 22, 2016. The intent of the Round 1 Pre-Planning Phase public meetings was to: provide an initial overview of the TPAP, introduce project timelines, share a scope of the EA studies and electrification infrastructure requirements, address any preliminary comments, and obtain feedback that could be used to improve project implementation.

Fifteen (15) public open houses were held during this time at various locations throughout the study area chosen based on the proposed siting of the TPFs. A total of 28 display boards were presented covering the following content:

- A. Background Information;
- B. Overview of RER and Timelines
- C. Scope of GO Network Electrification;
- D. EA Process;
- E. Summary/Scope of EA Studies;
- F. GO Network Electrification Infrastructure Requirements (OCS, bridges, grounding/bonding, etc.);
- G. General requirements for Traction Power Supply (Hydro One)
- H. General Locations of TPS/SWS/PS Facilities and Siting Criteria/Rationale; and,
- I. Next Steps.

A total of 8 phone calls and 139 emails and letters were received through the Electrification e-mail between February 1, 2016 and April 8, 2016, relating to this round of consultation. A total of 65 comment forms were submitted as part of the Round 1 Pre-Planning Phase Public Meetings comment period.

The key themes of the comments/feedback received included, but were not limited to the topics listed below:

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Effect on adjacent properties and corresponding property values;
- Cost/funding of electrification;
- EMI/EMF related concerns;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);

- Overhead contact system vs. third rail;
- Additional venue considerations/locations for next round of public meetings;
- Locations and size of traction power facilities;
- Inquiring about impacts on the existing power grid;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What type of safety/security measures will be implemented to protect the public from electrification infrastructure;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks; and,
- General support for electrification.

Overall positive feedback was expressed for transitioning from a diesel operated fleet to one that runs on electricity. Concerns expressed tended to be regarding site-specific impacts from project implementation, and impact to residents related to views/aesthetics, noise, vibration, and/or property values.

Public Meetings (Round Two) – Pre-Planning Phase

The second round of public meetings were held between November 7 and November 29, 2016. As a result of the feedback heard regarding Public Meetings Round #1, the focus of this round of Pre-Planning Phase public meetings focused on:

- Updated project timelines;
- Updates on conceptual electrification design;
- Noise impacts (increased service) and draft mitigation options to be considered;
- Vegetation/Tree removal impacts and draft mitigation options to be considered; and
- Visual/Aesthetic impacts and draft mitigation options to be considered.

Thirteen (13) public open houses were held during this time at various locations throughout the study area chosen based on the proposed siting of the TPFs, location of focused effects, and feedback received at previous public meetings. The format of the public meeting included a short presentation, workshops noise/vibration and tree removals, roll plans detailing proposed locations of OCS impact zones, noise/vibration mitigation, as well as, display boards detailing general electrification information.

A total of 1 phone call and 59 emails and letters were received through the Electrification e-mail between the October 24th, 2016 and December 14th, 2016 comment period for the Round 2 Pre-Planning Phase Public Meetings. A total of 23 comment forms were submitted.

The key themes of the comments/feedback received included, but were not limited to the topics listed below:

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Noise and vibration impacts and mitigation measures;
- Tree and vegetation removal impacts and compensation;
- Effect on adjacent properties and corresponding property values;
- Property encroachment and expropriation;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);
- Overhead contact system vs. third rail;
- Additional venue considerations/locations for next round of public meetings;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks; and,
- General support for electrification.

Public Meetings (Round Three) – TPAP Phase

The third round of public meetings were held between June 26 and July 5, 2017. The purpose of this round of meetings was to allow members of the public a chance to provide comments before the EPR was finalized, as well as to discuss:

- Updates on conceptual electrification design;
- Noise impacts (increased service) and draft mitigation options to be considered;
- Vegetation/Tree removal impacts and draft mitigation options to be considered; and
- Visual/Aesthetic impacts and draft mitigation options to be considered.

Four (4) public meetings were held at various locations throughout the network between June 26 and July 5, 2017. The locations for these meetings were chosen to ensure that coverage was provided for as wide an area as possible with only 4 sessions. The format of the public meeting included a 30 minute open house, featuring roll plans detailing locations of noise mitigation to be considered as well as display boards detailing general electrification information, a 30 minute presentation on the electrification project, followed by a question and answer period.

A total of 26 comment forms were submitted as part of the Round 3 TPAP Phase Public Meetings. The key themes of the comments/feedback received included, but were not limited to the topics listed below:

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Noise and vibration impacts and mitigation measures;
- Tree and vegetation removal impacts and compensation;
- Effect on adjacent properties and corresponding property values;
- Property encroachment and expropriation;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);
- Overhead contact system vs. third rail;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks; and,
- General support for electrification.

Draft Environmental Project Report Circulation

Prior to issuing the Notice of Commencement, a copy of the complete Draft EPR, including copies of all draft EPR appendices/supporting documents (technical/environmental reports) was circulated to over 80 federal, provincial, municipal and Indigenous review agencies in January 2017 for review and comment. The complete list of review agencies and Indigenous communities who received a copy of the Draft EPR has been provided in **Table 1-13**.

Subsequent to sending the EPR packages/letters, beginning the week of January 30, 2017 Metrolinx followed-up with all of the review agencies through phone call/voicemail and/or email to confirm that the draft EPR package had been received.

The various review agencies/Indigenous communities were asked to provide comments within a six week period between mid-January 2017 and February 28, 2017. There were approximately 40+ review agencies who provided comments on the Draft EPR. Of the 80+ review agencies and Indigenous communities circulated, only the following advised that they had no comments at the time:

- Indigenous and Northern Affairs Canada;
- Department of Fisheries and Oceans Canada;
- Environment and Climate Change Canada;
- Environment and Climate Change Canada – Committee on the Status of Endangered Wildlife in Canada (COSEWIC);

- Ontario Heritage Trust;
- Ministry of Municipal Affairs and Housing;
- Ministry of Energy;
- Ministry of Health and Long Term Care;
- Ministry of Education;
- Ministry of Agriculture Food and Rural Affairs;
- Ministry of Advanced Education and Skills Development;
- Ministry of Community and Social Services;
- Infrastructure Ontario;
- Town of Ajax;
- Niagara Escarpment Commission;
- Conservation Ontario;
- Hiawatha First Nation;
- Six Nations of the Grand River;
- Métis Nation of Ontario; and,
- Wahta Mohawks.

Subsequent to providing the responses to the draft EPR comments, Metrolinx followed-up with each review agency and Indigenous community through phone call to discuss any going concerns as they relate to the comments on the draft EPR. Further details can be found in the relevant sections below.

Indigenous Communities Consultation

Consultation with Indigenous communities was carried out throughout the Pre-Planning and TPAP Phase of the project. As part of identifying potentially interested and affected Indigenous communities, Metrolinx submitted a request to the MOECC Environmental Assessment and Approvals Branch (EAAB) on December 23, 2015 to assist in identifying potentially interested and affected Indigenous communities as per the requirements of subsection 7(4) of the O.Reg. 231/08. In addition, Metrolinx conducted background research to create a draft list of potentially affected Indigenous communities.

The following communities were identified as potentially affected or having interest in the Project and were subsequently added to the Stakeholder Contact List:

- Alderville First Nation;
- Beausoleil First Nation;
- Chippewas of Georgina Island;
- Chippewas of Rama First Nation;

- Curve Lake First Nation;
- Hiawatha First Nation;
- Huron-Wendat Nation;
- Haudenosaunee Chiefs Confederacy Council;
- Kawartha Nishnawbe First Nation;
- Mississaugas of the New Credit First Nation;
- Mississaugas of Scugog Island First Nation;
- Moose Deer Point First Nation;
- Six Nations of the Grand River;
- Wahta Mohawks;
- Anishinabek Nation Union of Ontario Indians;
- Association of Iroquois and Allied Indians;

Correspondence with communities identified in February 2016 began with a Notice of Public Meeting for the Pre-Planning Round 1 Open Houses. Each community identified at that time was sent a letter through standard letter mail, as well as an identical email (**Table 1-8**). This correspondence provided an introduction to the TPAP and the proposed scope of work, a list of all upcoming Round 1 Pre-Planning Phase Open Houses (location, date, and time of each meeting) and details of how the community could reach out to Project staff should they have any questions or concerns, and/or wish to participate in the consultation process. Metrolinx followed up with those communities which did not provide a response.

10 communities met with Metrolinx directly during the pre-planning phase. These meetings were largely introductory in nature. Several meetings with Williams Treaties First Nations (WTFN) communities occurred between May and September 2016; meetings with Six Nations of the Grand River and Mississaugas of the New Credit First Nation occurred on September 16, 2016 and September 19, 2016; and a meeting was held with Huron Wendat Nation on September 27, 2016.

A second notification was provided the week of October 24, 2016 notifying them of the second round of public meetings.

Subsequent to sending the EPR packages/letters, beginning the week of January 30, 2017 Metrolinx followed-up with each Indigenous community through phone call/voicemail and/or email to confirm that the draft EPR package had been received and to inquire as to whether comments on the draft EPR could be expected.

A third notification was sent out on June 14, 2017 to notify Indigenous Communities of the third round of public meetings. The third notification was combined with the Notice of Commencement, informing Indigenous Communities that the TPAP Phase Consultation had begun.

Several follow up efforts with Indigenous communities were undertaken by Metrolinx throughout the project to ensure notifications were received, ensure the Draft EPR package was received, solicit comments/feedback on materials and information provided, etc. These follow up efforts took the form of follow up email correspondence and phone calls.

A detailed summary of all consultation efforts undertaken with all identified indigenous communities during the Pre-Planning and TPAP phases can be found the relevant sections below.

Property Owner Consultation

Metrolinx acquired contact information for properties located within 100 m of the Study Area through *Teranet*, which owns and operates the Ontario Electronic Land Registration System. The property owners identified through this process were included on the master Project Contact List and provided with an initial notification of the project on February 1, 2016, and all identified property owners later received the public notices listed in **Table 1-1** (see **Appendix L-3**) via Canada Post mail drops. These notices were also provided to condominium and apartment building managers within the Study Area for posting in common areas. Notices for all three rounds of public meetings as well as the Notice of Commencement and Notice of Completion were provided to all identified property owners as part of the Pre-Planning phase and the TPAP phase of the project.

In addition, Metrolinx also contacted owners of properties being considered as potential locations for locating traction power facilities (TPFs). As part of this correspondence (see **Appendix L-11**), Metrolinx requested a private meeting with each property owner at their convenience. Metrolinx attempted to follow up with those property owners whose lands were considered as preferred TPF locations prior to the Pre-Planning Phase public meetings. This was done either through telephone calls or in-person meetings. The majority of these meetings were held prior to the Round 1 public open houses in order to personally explain the Project and any potential impact to the property owners' lands. Discussions with property owners continued throughout the TPAP as required.

Review Agency Consultation – Federal, Provincial, Municipal and Conservation Authorities

There were over 150 federal, provincial, municipal review agency contacts included on the Stakeholder Contact List who were notified/consulted as part of the GO Rail Network Electrification TPAP (see **Appendix L-1**). Review agency consultation and engagement efforts are briefly summarized as follows:

- Review agencies were notified of all three rounds of public meetings and the opportunity to provide input/feedback;
- Review agencies were provided with a copy of the Notice of Commencement and the opportunity to provide input/feedback;

- Several meetings were held with numerous review agencies to discuss the project, electrification infrastructure, mitigation strategies and project commitments at various points during the Pre-Planning and TPAP Phases;
- Municipalities and Conservation Authorities were engaged as part of the development of the initial vegetation compensation protocol elements (Refer to Volumes 3 and 5 for further detail);
- 13 City of Toronto TAC meetings were held discussing a variety of topics throughout the project such as general project updates, infrastructure required, Tap/TPF siting, Don Yard PS, Scarborough TPS, visual/aesthetic concerns and mitigation, bridge barrier design, bridge modifications/impacts, noise mitigation, EPR commitments, etc.;
- Meetings with Conservation Authorities to discuss natural environmental studies, tree/vegetation removal and mitigation options as well as floodplains.
- 20+ municipal meetings were held in November 2016 to discuss the project infrastructure required and initial results of the technical/environmental studies;
- Numerous meetings with Utility companies were held during the TPAP to discuss the project and initial identification of potential utility conflicts;
- Coordination and consultation with the Ministry of Environment and Climate Change was carried out throughout the project to discuss: project scope, air quality study scope, noise/vibration report scope, comments on noise/vibration reports and additional considerations for the EPR; coordination of Draft EPR review.
- Several meetings with provincial agencies such as Ministry of Tourism, Culture and Sport throughout the project to discuss: scope of the cultural heritage and archaeological studies, reporting requirements;
- Meetings with federal agencies such as Parks Canada to discuss potential impacts and mitigation for Union Station Train Shed as well as potential tree removal implications relating to Rouge National Urban Park and associated mitigation strategies.
- Meetings with City of Barrie/Barrie Collingwood Railway to discuss the process for establishing required agreements as they relate to building project infrastructure (25kV feeder route) and associated commitments during detailed design;
- Meetings with specific municipalities expressing concern/comments relating to TPF sites and options for visual mitigation (e.g., City of Vaughan, Town of Innisfil).
- 80+ review agencies were provided with a copy of the Draft EPR and Appendices for review and comment prior to the Notice of Commencement resulting in 40+ sets of comments received (i.e., 1200+ comments total); each of which were responded to by Metrolinx and documented in this EPR (see sections/tables that follow for further detail);
- Follow up meetings with review agencies who requested additional information or further clarification of Metrolinx's responses to Draft EPR comments and commitments to be included in the EPR;
- Review agencies were provided with a copy of the Notice of Completion and the opportunity to provide input/feedback as part of the 30 Day review period.

Additional details on review agency consultation efforts can be found in the relevant sections/tables below.

Third Party Utility Owners

Correspondence with third party utility owners/municipalities and regional authorities was initiated through a formal letter providing an overview of the project and an explanation of the data required (buried utilities, overhead utilities, future utilities planned). Each letter contained a series of figures depicting the portions of the project Study Area falling within the recipient's jurisdiction. Thereafter, teleconferences and meetings were held with recipients to follow up on the data requests and address any questions that had arisen from the initial correspondence. Further information on this process and the utilities contacted can be found in the relevant sections below.

Other Stakeholders

As part of TPAP consultation, Metrolinx also held meetings with various other stakeholders such as Toronto Transit Commission, Fort York Historic Site, Canadian National Railway Company, Greater Toronto Airports Authority, Ontario Power Generation, NavCanada, etc. to discuss critical technical aspects of Electrification. The details of these discussions/meetings can be found in the relevant sections below.

Elected Officials Consultation

All elected officials whose electoral riding intersected with the Study Area were sent a notification of the first round of public meetings on February 3, 2016. The letter also invited officials to contact the Project Team if they wished to schedule a meeting with Project staff.

Meetings occurred with: Councillor Gord Perks; Councillor Kevin Ashe; MPP Tracy MacCharles (Pickering-Scarborough East); MPP, Peter Tabuns (Toronto-Danforth); MPP, Chris Ballard (Newmarket-Aurora); MPP, Helena Jaczek (Oak Ridges-Markham); MPP, Harinder Malhi (Brampton – Springdale); MPP, Peter Milczyn (Etobicoke-Lakeshore); MPP, Eleanor McMahon (Burlington); MPP, Soo Wong (Scarborough-Agincourt); and MP Jennifer O'Connell (Pickering-Uxbridge).. Details of these meetings and additional correspondence can be found in Section 1.2.6.

A second notification was provided the week of October 24, 2016 notifying them of the second round of public meetings. A third notification was sent out on June 14, 2017 to notify elected officials of the third round of public meetings. The third notification was combined with the Notice of Commencement, informing elected officials that the TPAP Phase Consultation had begun. Meetings with elected officials that have occurred since the Notice of Commencement are summarized in Section 1.3.5.

Further details can be found in the relevant sections below.

1 Consultation

In accordance with Section 8 of *Ontario. Reg. 231/08 Transit Projects and Metrolinx Undertakings (the Regulation)*, this volume summarizes how Metrolinx and Hydro One consulted with the public, property owners, review agencies, Indigenous communities and other stakeholders during the GO Rail Network Electrification Transit Project Assessment Process (TPAP) (i.e., during the Pre-Planning Phase and the 120-day TPAP phase). A detailed summary of stakeholder feedback and comments received and how they were considered throughout the planning and design process have been provided in this volume. This further demonstrates how Metrolinx and Hydro One met their requirements for consultation under the Regulation.

1.1 Consultation Strategy

At the outset of the Pre-Planning Phase of the TPAP, a Communications & Consultation/Stakeholder Engagement Plan was developed which outlined a strategy and approach for consulting with stakeholders throughout the course of the TPAP. The key elements of this plan and how they were executed are summarized in detail below.

The main goals outlined in the Communications and Consultation/Stakeholder Engagement Plan for the GO Rail Network Electrification TPAP were as follows:

- Meet the requirements of O. Reg. 231/08;
- Attract and engage a diverse set of stakeholders;
- Communicate the rationale for electrification (as part of the overall Regional Express Rail (RER) Program) and the preferred design;
- Provide opportunities for interested stakeholders to provide input and feedback on the proposed project design, locations of proposed ancillary facilities (e.g., traction power facilities) and the consultation process; and
- Educate stakeholders and promote an understanding amongst participants regarding GO Rail Network Electrification, key decision points, the project milestones and timelines and next steps following completion of the TPAP.

In an effort to engage a diverse set of participants, provide information and updates on the project, and to allow opportunities for interested persons to provide comments and feedback throughout the process, the following methods of consultation were employed:

- Project Web Site (<http://www.gotransit.com/electrification/>);
- Online via, Metrolinx Engage¹;

¹ Metrolinx Engage is an online engagement tool which provides an additional online experience through social media, GIS resources, and live comment feeds. This website provides a comprehensive hub for interested

- Electrification e-mail address;
- Public Open Houses and Public Review Opportunities;
- Newspaper Advertisements;
- Notifications and Email Updates
- Meetings with Review Agencies (Federal, Provincial, Municipal and Conservation Authorities);
- Meetings with Elected Officials;
- Meetings with Indigenous Communities;
- Meetings with Other Stakeholders (e.g., transit authorities, utilities); and
- Meetings with Property Owners.

Metrolinx attempted to conduct consultation activities which were accessible, as defined by the Accessibility for Ontarians with Disabilities Act (AODA). This includes hosting events in AODA compliant facilities, providing multiple methods for providing feedback and reviewing materials.

1.1.1 Integration with Regional Express Rail Consultation Activities

There are a number of other Metrolinx/GO Transit projects currently underway or planned along several

GO rail corridors associated with Regional Express Rail (RER). RER is the Province of Ontario's 10 year funding strategy for transportation infrastructure in the Greater Toronto Hamilton Area (GTHA). Electrification is one part of RER that will help dramatically increase service levels on all GO Transit corridors. In addition to electrification, this strategy includes other track expansion projects, grade separation projects, new GO stations, fare integration, and increased levels of service. It is important to note that these projects will be/are currently being assessed as part of separate TPAPs/Environmental Assessment (EA) studies. Notwithstanding this, opportunities were sought to combine public consultation activities for the Electrification TPAP with other Metrolinx TPAPs/EAs (RER-related track expansions, new stations, etc.) in order to more efficiently present information on multiple, interrelated aspects of RER and so that interested persons could participate in one combined session (rather than several separate sessions).

1.1.2 Stakeholder Engagement Methods/Tools/Activities

1.1.2.1 Stakeholder Contact List

At the onset of the project, a Stakeholder Contact List (organized by corridor) was established, based on previously completed Metrolinx TPAP/EA projects and the Ministry of the Environment and Climate Change (MOECC) Government Review Team List. The list consisted of the following stakeholder groups: members of the public, property owners, Indigenous communities, review agencies (federal, provincial,

stakeholders to learn more about a variety of Metrolinx initiatives and find out how they can participate and provide feedback while interacting with content. It is further discussed in Section 1.1.2.2.2.

municipal and conservation authorities), elected representatives, utility companies, transit authorities, community/interest groups, and other rail operators. The MOECC Government Review Team List is maintained by the MOECC and includes provincial and federal government agency contacts who may have an interest in/or review EAs.

The contact list contained the names, addresses, phone numbers and email addresses of each individual so that they could receive project updates throughout the project.

This list was continually updated and augmented as the project progressed. A copy of the Stakeholder Contact List can be found in **Appendix L-1**.

1.1.2.2 Online Engagement

Digital engagement tools were employed as part of a comprehensive and accessible TPAP consultation program, with online consultation envisioned as a significant aspect of the consultation approach. The use of digital engagement tools allows for interested stakeholders to receive information and project updates, as well as to submit comments and questions directly to the project team in a variety of ways. Two websites (the existing Metrolinx Electrification webpage and Metrolinx Engage) were used as part of the online engagement in order to notify stakeholders of project updates and public meetings, provide key project information, and provide a mechanism for receiving stakeholder comments and feedback, as described below.

1.1.2.2.1 Existing Metrolinx Electrification Webpage

The existing Metrolinx Electrification webpage was established as part of the previous Union Pearson (UP) Express TPAP, and was rebranded as the GO Network Electrification TPAP website (www.gotransit.com/electrification/). This site was initially updated in late 2015 and early 2016 in order to provide updated information on the project including the study work to date, ongoing TPAP, how interested parties can participate in the process, and contact information for the Project study team. The webpage was continually updated throughout the process and acted as an information portal which is easy to navigate, allowing users to seek out information on the project, find project contacts and reach out privately with questions. The website was maintained throughout the Project to provide project updates, notice of upcoming consultation events, copies of studies, documents and reports for review, public meeting materials, opportunities for feedback, and project schedule updates.

1.1.2.2.2 Metrolinx Engage

The Metrolinx Engage website (www.metrolinxengage.com) is an online engagement tool which provides an additional online experience through social media, GIS resources, and live comment feeds. This website provides a comprehensive hub for interested stakeholders to learn more about a variety of Metrolinx initiatives and find out how they can participate and provide feedback while interacting with content. The intent of the site is to provide a digital equivalent to attending a public meeting in person.

Project information is posted directly on the website as well as via downloadable documents, and visitors are encouraged to log in and answer questions regarding the material. Buttons are available for participants to share the information via Facebook, Twitter and LinkedIn. A Social Hub component of the website also summarizes all of the social media posts (Twitter, Facebook, Instagram, etc.) relating to Metrolinx projects in one place.

Any feedback received through the Metrolinx Engage website regarding electrification was forwarded to the Project study team for inclusion in the comment summaries. These comments were afforded the same weight as all other comments.

1.1.2.2.3 Social Media

Updates on the Electrification Project, including the locations and times of public meetings, were tweeted by Metrolinx. Metrolinx also responded to questions raised by the public on Twitter. As mentioned above, a Social Hub component of the Metrolinx Engage website summarized all social media posts relating to Metrolinx projects in one place.

1.1.2.2.4 Project E-Mail Address

As a way to manage all electrification-related inquiries, Metrolinx created an e-mail address that would act as a dedicated point of contact for all interested stakeholders. The e-mail address (electrification@metrolinx.com) originally acted as a point of contact for the UP Express EA, but was used to facilitate all correspondence for the GO Rail Network Electrification TPAP.

The electrification email address was published on:

- The Electrification website;
- Newspaper advertisement for public meetings;
- Stakeholder letters;
- Feedback forms provided at public meetings,
- Notice of Commencement; and,
- Notice of Completion.

1.1.2.2.5 Information Packages

Information packages were sent out at key points in the project to provide stakeholders with updated information about the conceptual design process, environmental effects and mitigation, and other issues.

1.1.2.3 Public Meetings and Correspondence

Metrolinx hosted a total of three rounds of public meetings occurring over multiple dates, with locations spread around the GTHA. Locations were chosen to ensure sufficient geographic coverage of the project study area so as to meet with as many people as possible face to face, and to satisfy the objectives of each round of consultation. The first two rounds occurred prior to the issuance of Notice of Commencement

(i.e., during the Pre-Planning Phase), and the third round followed the publishing of the Notice of Commencement. Information on the Pre-Planning Phase Public Meetings, including the issues presented and types of comments received, can be found in Sections 1.2.2.1.2 and 1.2.2.2.2. Information on the TPAP Phase consultation can be found in Section 1.3.3.1.3.

1.1.2.4 Public Notices

Newspaper advertisements for all required notices and public meetings were published in local newspapers and online publications (e.g. Toronto Star online) with distribution in vicinity of the TPFs and corridors, as well as online at the Electrification website in advance of and throughout the TPAP. Multiple media, such as Twitter, Facebook, website postings, mail outs to the stakeholder list, and newspaper advertisements were utilized as a means of ensuring that information would be accessible to all interested stakeholders.

Table 1-1 summarizes all notices published as part of the Pre-Planning Phase and TPAP consultation process.

Table 1-1: Summary of Public Notices Published

Phase	Notice Type	Date	Publication Location
Pre-Planning	Notice of Public Meeting – Round 1	February 1-5, 2016	Multiple Newspapers (See Section 1.2.2.1.1)
Pre-Planning	Notice of Brampton Meeting Rescheduling – Round 1	March 1, 2016	E-mails to stakeholders and review agency contacts, Twitter and Facebook
Pre-Planning	Notice of Public Meeting – Round 2	October 24, 2016 – November 2, 2016	Multiple Newspapers (See Section 1.2.2.2.1)
TPAP	Notice of Commencement & Notice of Public Meeting – Round 3	June 14, 2017 – June 30, 2017	Multiple Newspapers (See Section 1.3.1)
TPAP	Notice of Completion	October 11, 2017	Multiple Newspapers (See Section 1.4)

1.1.2.5 French Translation

As a government agency operating under the principles of the *French Language Services Act (FLSA)*, Metrolinx is committed to providing services in French in designated areas of the province. The agency works to ensure the availability and accessibility of quality services in French system-wide. Following these principles, Metrolinx provided a French translation of all notices and newspaper ads for the project.

1.1.2.6 Project Phone Number

A project phone number was provided with all public notifications which provided a point of contact to Metrolinx staff for members of the public.

1.2 Pre-Planning Phase Consultation

Consultation in advance of the TPAP was commenced formally on February 1, 2016 with the publication of the Notice of Public Open House (see Section 1.2.2). However, informal consultation had been ongoing since late 2015 with review agencies and other interested parties, as described in the following sections.

1.2.1 Online Engagement

1.2.1.1 Electrification Project Website

The Electrification website, as described in Section 1.1.2.2.1, was updated with information regarding the Pre-Planning Phase consultation. This information consisted of:

- All project notices, including:
 - the advertisement for Public Meetings - Rounds 1 and 2; and
 - rescheduling of the meeting in Brampton, with Metrolinx's contact information.
- Complete sets of Public Open House Display Panels. These were posted for viewing and download throughout the Public Meeting sessions as an alternative way for interested persons who were not able to attend the meetings in person to view the material and submit questions or feedback to Metrolinx; and
- A direct link to the Metrolinx Engage website. This was provided under the *Participate* section to give people the option to participate online.

In May 2016, a Frequently Asked Questions (FAQ) page (Metrolinx, 2016) was posted to the Electrification website. The purpose of this FAQ was to provide interested stakeholders with quick and easy answers to some of the more common questions relating to the Electrification Project. The questions were sorted by topic to make it easier for the user to navigate the page. The FAQs are included in **Table 1-4** which summarizes all comments from the public related to electrification.

1.2.1.2 Metrolinx Engage Website

The Metrolinx Engage website discussed in Section 1.1.2.2.2 was updated to provide information for the Pre-Planning Phase consultation. This information included open house display materials provided in an interactive web panel format, allowing individuals to provide immediate public comment on each panel. An overview of the project and an explanation of electrification infrastructure were also provided, as well as a link to the Electrification website. Any feedback received through the Metrolinx Engage Website is included in **Table 1-4** and **Table 1-7**.

1.2.2 Public Consultation

1.2.2.1 Pre-Planning Phase Public Meetings Round One (February/March 2016 – October 2016)

1.2.2.1.1 Notice of Public Meeting

Metrolinx posted a Notice of Public Meeting in order to inform stakeholders of the opportunity to participate in the Round 1 public meetings. This Notice ran during the week of February 1-5, 2016 in newspapers which had geographic coverage of the Project Study Area. **Table 1-2** lists the newspapers in which advertisements were published and the respective dates that they were featured.

Table 1-2: Summary of Public Meeting Round One Advertisements

Publication	Date Published
Oshawa Express	Wednesday, February 03, 2016
Whitby (Oshawa) This Week	Wednesday, February 03, 2016
Ajax/Pickering News Advertiser	Thursday, February 04, 2016
Stouffville Sun Tribune	Thursday, February 04, 2016
Markham Economist and Sun	Thursday, February 04, 2016
Barrie Advance	Thursday, February 04, 2016
Barrie Examiner	Thursday, February 04, 2016
Innisfil Journal	Thursday, February 04, 2016
Bradford West Gwillimbury Times	Thursday, February 04, 2016
Bradford West Gwillimbury Topic	Thursday, February 04, 2016
East Gwillimbury Express/Newmarket Era	Thursday, February 04, 2016
The Auroran	Thursday, February 04, 2016
Markham Economist and Sun	Thursday, February 04, 2016
King Weekly Sentinel	Thursday, February 04, 2016
King Connection	Thursday, February 04, 2016
Vaughan Citizen	Thursday, February 04, 2016
Thornhill/Richmond Hill Liberal	Thursday, February 04, 2016
Brampton Guardian	Thursday, February 04, 2016
Mississauga News	Thursday, February 04, 2016
Oakville Beaver	Thursday, February 04, 2016
Scarborough Mirror	Thursday, February 04, 2016
Etobicoke Guardian (Mimico)	Thursday, February 04, 2016
City Centre Mirror	Thursday, February 04, 2016
East York/Riverdale/Beaches Mirror	Thursday, February 04, 2016
North York Mirror	Thursday, February 04, 2016
York Guardian	Thursday, February 04, 2016
Parkdale Villager	Thursday, February 04, 2016

Toronto Star and Toronto Star online	Thursday, February 04, 2016
Innisfil Examiner	Friday, February 05, 2016
Burlington Post	Friday, February 05, 2016
Oshawa Durham Central	Monday, February 08, 2016
French Publications	
L'Express	Tuesday, February 02, 2016
Le Metropolitain	Wednesday, February 03, 2016

In addition, a French and English version of this advertisement were made available, as per the requirements described in Section 1.1.2.5, on the Metrolinx Electrification website. Copies of the English and French Newspaper Ads are included in **Appendix L-2**.

1.2.2.1.2 Public Meetings Overview and Locations

The intent of the Round 1 Pre-Planning Phase public meetings was to: provide an initial overview of the TPAP, project timelines, scope of the EA studies, and electrification infrastructure requirements; address any preliminary comments; and obtain feedback that could be used to improve project implementation. The Pre-Planning Phase public meetings were held in February and March 2016 to allow for more detailed EA and design information to be confirmed and developed prior to the next round of Pre-Planning Phase Public Meetings.

Fifteen (15) public open houses were held at various locations throughout the network between February 16 and March 22, 2016. Locations for public meetings were chosen based on the proposed siting of the TPFs. Holding public meetings in these strategic locations aimed to provide opportunity for individuals across a wide geographic area to be able to participate in the meetings. All 15 public meeting venues were accessible, and display boards were placed in areas that were also accessible. Based on stakeholder feedback received during the first round of consultation, the public meeting venues were reviewed and alternative locations were recommended for the second round of consultation.

The public meetings within the City of Toronto were held as joint meetings with City of Toronto staff. At the joint meetings, City of Toronto staff provided information on various ongoing City lead projects in proximity to each meeting location. Due to this fact, meetings located within the City of Toronto generally had the highest turnout of meeting attendees.

Table 1-3 below provides a summary of when and where the public meetings took place. Copies of the newspaper advertisements for the first round of public meetings are included in **Appendix L-2**, and copies of the public meeting notifications, and cancellation and rescheduling notifications are in **Appendix L-3**.

Table 1-3: Public Meeting Round One Locations & Dates

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



Meeting #	Date	Time	Location	Address	Relevant TPF Location
1	February 16th	6:30-8:00 pm	Jean Vanier Catholic Secondary School	959 Midland Ave., Scarborough, ON M1K 4G4	Scarborough TPS & Scarborough SWS
2	February 17th	6:30-8:00 pm	St. Maximillian Kolbe Catholic High School	278 Wellington St., East, Aurora, ON L4G 1J5	Newmarket SWS
3	February 22nd	6:30-8:00 pm	Unionville High School	201 Town Centre Blvd., Unionville, ON L3R 8G5	Unionville PS
4	February 23rd	6:30-8:00 pm	Nantyr Shores Secondary School	1146 Anna Maria Ave., Innisfil, ON L9S 4X5	Gilford PS
5	February 24th	6:30-8:00 pm	Metro Toronto Convention Centre - North Building, Room 203	255 Front St. West, Toronto, ON M5V 2W6	N/A
6	February 25th	6:30-8:00 pm	Abilities Centre	55 Gordon St., Whitby, ON L1N 0J2	ERMF TPS
7	February 29th	6:30-8:00 pm	Oakville Trafalgar High School	1460 Devon Rd., Oakville, ON L6J 3L6	Oakville SWS
8	March 2nd	6:30-8:00 pm	Stouffville District Secondary School	801 Hoover Park Dr., Stouffville, ON L4A 0A4	Lincolnville PS
9	March 3rd	6:30-8:00 pm	Holly Community Centre	171 Mapleton Ave., Barrie, Ontario L4N 8T6	Allandale TPS
10	March 7th	6:30-8:00 pm	St. Joan of Arc Catholic High School	1 St. Joan of Arc Ave., Maple, ON L6A 1W9	Maple PS
11	March 8th	6:30-8:00 pm	Robert Bateman High School	5151 New St., Burlington, ON L7L 1V3	Burlington TPS
12	March 9th	6:30-8:00 pm	Lakeshore Collegiate Institute	350 Kipling Ave., Etobicoke, ON M8V 3L1	Mimico TPS
13	March 10th	6:30-8:00 pm	Glengrove Public School	1934 Glengrove Rd., Pickering, ON L1V 1X2	Durham Junction PS
14	March 21 st *	6:30-8:00 pm	Holy Name of Mary Catholic Secondary School	115 Glenvale Blvd., Brampton, ON L6S 3J7	Bramalea PS
15	March 22nd	6:30-8:00 pm	Nelson Mandela Park Public School	440 Shuter St., Toronto, ON M5A 1X6	Don Yard PS

*On March 1st, 2016, Metrolinx received notification from Dufferin-Peel Catholic District Schoolboard that the meeting permit scheduled for the same evening at Holy Name of Mary Catholic Secondary School had been cancelled due to inclement weather. This meeting was subsequently re-scheduled for March 21st at the same time and location. To provide notification of the cancellation and subsequent re-scheduling, Metrolinx sent emails to all stakeholders and review agency contacts that were on file. In addition, Metrolinx utilized its social media accounts (Twitter and Facebook) to broadcast the cancellation and rescheduling, which was also re-posted by multiple social media accounts including, CityNews Toronto, 680 News, and Brampton Mayor Linda Jeffrey.

The meetings provided the public an opportunity to review display boards and meet with staff one on one to discuss the project. The display boards were posted and staffed for the duration of the event. Comment sheets (see **Appendix L-4**) were provided to all attendees as the primary mechanism for submitting comments and feedback on the project and a summary report was prepared to document the sessions (see **Appendix L-4**). This report outlined how stakeholders were engaged prior to and during meetings, how and what content was presented, meeting attendance, and the types of feedback that were received.

A total of 28 display boards were presented covering the following content:

- A. Background Information;
- B. Overview of RER and Timelines
- C. Scope of GO Network Electrification;
- D. EA Process;
- E. Summary/Scope of EA Studies;
- F. GO Network Electrification Infrastructure Requirements (OCS, bridges, grounding/bonding, etc.);
- G. General Locations of TPS/SWS/PS Facilities and Criteria/Rationale; and,
- H. Next Steps.

Printed copies of the panels were made available to meeting attendees upon request and were made available online at the Electrification website and Metrolinx Engage. A copy of the Public Meeting Display Panels is provided in **Appendix L-4**.

Over the course of the 15 meetings, a total of 893 people signed in at the welcome kiosk. Of those 893 people, 607 marked that they would like to receive updates regarding the Electrification Project (approximately 68% of all those who signed-in). Generally speaking, meetings located within the City of Toronto had the highest turnout of meeting attendees. A wide variety of comments were received including questions regarding the display board content, general RER-related concerns, and questions regarding other Metrolinx EAs. The electrification related comments and how they have been addressed are summarized in Section 1.2.2.1.3 (**Table 1-4**).

1.2.2.1.3 Summary of Public Comments Received

Prior to and during the Consultation Round 1 (February/March 2016-October 2016), comments were received via a variety of communication channels: phone calls, e-mails, letters, and comment forms. When a comment was provided via phone call, the comment was logged and a response was later provided via email or phone call/voicemail.

The comment period for Round 1 Pre-Planning Phase public meetings was between February 1, 2016 and April 8, 2016). A total of 8 phone calls and 139 emails and letters were received through the Electrification e-mail between during the comment period.

A total of 65 comment forms were submitted as part of the Round 1 Pre-Planning Phase Public Meetings. When a meeting attendee had a verbal comment, staff provided them with a comment form and encouraged them to write down their comments so that it could be formally addressed. Copies of the completed comment forms are included in **Appendix L-4**.

Some of the feedback received was related to topics that were outside the scope of the Electrification Project, many of which were more related to track expansion work defined under Metrolinx's RER Program. Generally speaking, the key themes of the comments/feedback received included, but were not limited to the topics listed below. These have been categorized into "Related to Electrification TPAP Scope" and "Other Comments".

Related to Electrification TPAP Scope

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Effect on adjacent properties and corresponding property values;
- Cost/funding of electrification;
- EMI/EMF related concerns;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);
- Overhead contact system vs. third rail;
- Additional venue considerations/locations for next round of public meetings;
- Locations and size of traction power facilities;
- Inquiring about impacts on the existing power grid;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What type of safety/security measures will be implemented to protect the public from electrification infrastructure;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks; and,
- General support for electrification.

Other Comments

- Locations for track expansion on Lakeshore East Corridor;
- Locations for track expansion on Lakeshore West Corridor;

- Locations for track expansion on Barrie Corridor;
- Comments about ongoing Metrolinx construction projects;
- Vibration levels associated with existing service;
- Increased service (number of trains) along rail corridors;
- Concerns related to noise from increased train service and whistling;
- When/where new GO station will be implemented; and,
- Inquiries about noise mitigation (i.e. barriers) for increased service levels.

Overall, positive feedback for the Electrification Project was expressed by the public, with a general consensus that transitioning from a diesel operated fleet to one that operates on electricity will be an improvement. Concerns tended to be expressed regarding site-specific impacts from project implementation, most commonly relating to how the project will impact residents' quality of life through changes to views/aesthetics, noise, vibration, or property values. As part of the TPAP, Metrolinx completed detailed visual, noise / vibration and other impact assessments to address these and other issues. The results of these studies were discussed during the Round 2 Pre-Planning Phase and consultation activities and were provided for public review during the TPAP phase consultation activities.

Table 1-4 summarizes the key issues/comments/questions related to electrification that were raised by members of the public as part of the Round 1 Pre-TPAP consultation, and how they were considered by Metrolinx. Copies of all public comments received can be found in **Appendix L-7**.

Figure 1: February 16, 2016, Public Meeting in Scarborough

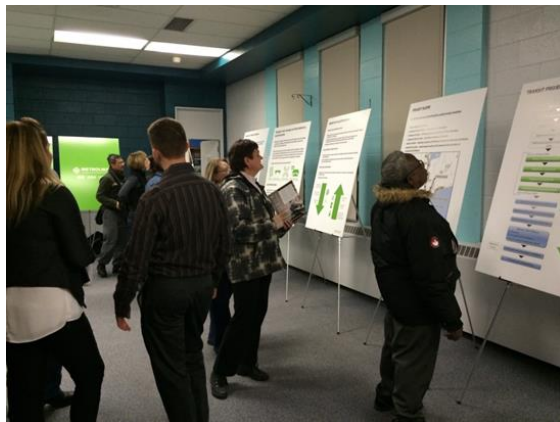


Figure 2: February 17, 2016, Public Meeting in Aurora



Table 1-4: Summary of Pre-Planning Phase Public Comments Received (February/March 2016 –October 2016)

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
EA Process, Project Scope and Environmental Questions/Comments				
1	FAQs	EA Process	Why is Metrolinx completing another EA?	Environmental Assessments carried out under the Transit Project Assessment Project (TPAP) examine the potential effects to the environment where infrastructure is being proposed (e.g., increases or decreases to noise/vibration, effects on natural environmental features, etc.). The TPAP for the electrification of UP Express looked at the effects of electrification along the UP Express/Kitchener corridor. Whereas the GO Rail Network Electrification TPAP is examining the effects on all other corridors to be electrified.
2	FAQs	EA Process	What is involved in the EA/TPAP?	Starting in July 2015, Metrolinx commenced the pre-consultation phase of the Transit Project Assessment Process (TPAP) for Network Electrification. The TPAP is an expedited Environmental Assessment (EA) process involving a pre-consultation phase (no regulated timeline) followed by a regulated (up to 120-day) TPAP Phase. As part of this process, the technical and engineering work needs to be completed to support the TPAP, in addition to several environmental studies, and consultation with Review Agencies, Indigenous communities, the public, and other stakeholders.
3	Round 1 PICs (Mimico)	EA Process - Consultation	Certain residential buildings (condos and townhouses) near the rail corridor did not receive notice, residents would like to be notified.	As part of the TPAP, Metrolinx attempted to gather contact information for all property owners within 30 metres of the rail corridor, including apartment buildings and condos. These residents were sent a notice of the project via Canada Post mail. For apartment and condominium buildings, an email was sent to the property manager or property management company to be posted in the common area of the building, so this notice may have not been seen by all residents. Any individual can request to be added to the public stakeholder contact list through emailing electrification@metrolinx.com , and will be added and receive updates.
4	FAQs / Via Email / Round 1 PICs (Oakville)	EA Process – Consultation	How were the locations of the first public meetings determined? Why was there not a meeting in Mississauga or near the Georgetown Corridor?	Responses were sent on March 21 and June 7, 2016, indicating that the fifteen public meeting locations for the first round of public consultation were generally based on the proposed siting of the recommended traction power facilities along each corridor. The overall objective in locating the public meetings was to ensure sufficient geographic coverage and to provide convenient locations for attendees. All fifteen public meeting locations were accessible. In addition, for those who are unable to attend the meetings in person, the display materials have been posted online for comment at www.gotransit.com/electrification/ and https://www.metrolinxengage.com/en . Based on stakeholder feedback received during the first round of consultation, the public meeting venues will be reviewed and alternative locations may be recommended for the subsequent second round of consultation. Electrification of the UP Express route (which includes the Kitchener corridor (formally known as the Georgetown Corridor)) from UP Express Union Station to Terminal 1 at Pearson International Airport was previously assessed and approved as part of the Metrolinx UP Express Electrification TPAP in 2014, which included an extensive public consultation process. Therefore, this particular portion of the Kitchener corridor is not included in the scope of the GO Rail Network Electrification TPAP. In relation to the portion of the Kitchener corridor that is included in the project scope (i.e., from the UP Express Spur to Bramalea, a public meeting is being held on <i>March 21st at Holy Name of Mary Catholic Secondary School in Brampton, 115 Glenvale Blvd., Brampton ON, 6:30p.m. – 8:00p.m.</i>
5	Via Email	EA Process – Consultation	Maps provided on web site / notice of meetings do not include the corresponding streets to allow residents to see exactly where the proposed traction power facilities will be located.	The intent of the notice was to invite people to the upcoming public meetings and provide an overall update on the electrification project. The map provided on the Metrolinx website is a ‘key map’ that was created at a scale that depicts the complete scope of the Project Study Area (which extends across the entire GO Transit Network) as well as the general locations of the traction power facilities. Detailed mapping for traction power facility locations can be found online within the GO Rail Network Electrification TPAP public open house display panels, available at http://www.gotransit.com/electrification/en/participate/default.aspx and https://www.metrolinxengage.com/sites/default/files/go_electrification_public_meeting.pdf
6	Via Email	EA Process – Consultation	Concerns regarding suitability of staff attending public meeting; a forum where people can share their opinions to a central source who is gathering them would have been better.	The public meetings hosted by Metrolinx are intended to provide the public with an initial opportunity to learn more about the project, discuss the details with the project team, and answer questions. Everyone who attended the meeting was provided the opportunity to submit their comments in writing so that they could be compiled for review, formally documented as part of the project’s consultation efforts and responded to by the project team. In addition, all emails sent to this email address are centrally compiled and reviewed by the project team.
7	Via Email	EA Process - Consultation	Concerns with PIC organization and relevance to the Etobicoke residents.	We regret that you did not have a positive experience at the March 9 public meeting. This was a joint meeting with the City of Toronto whose staff led the presentation. Metrolinx participated in the lobby with information boards and staff on hand to answer questions related to the projects outlined in our Regional Transportation Plan. We appreciate your feedback as this will help us continually improve our approach to providing the communities we work and serve with information about our plans to get the region moving. We will share this feedback with the City of Toronto staff as well.
8	Via Email	EA Process - Consultation	Where can I submit my comment forms from the PIC?	Comment forms can be submitted via mail to:

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>A. Saltarelli Bay Wellington Tower, 181 Bay Street, 32nd Floor Toronto, Ontario M5J 2T3 As an alternative, you may also send questions or comments directly to the project team via email: Electrification@metrolinx.com</p>
9	Via-Email	EA Process - Consultation	I attach a satellite image of the residential area known as Old Riverdale just east of Greenwood along the north side of the Lakeshore East Corridor. The area outlined in blue shows the zone within 30 metres of the northern boundary of the Metrolinx corridor. This image suggests that anywhere from 2 to 5 semi-detached residences should have received [PIC 1] notification, rather than just the one closest to your land.	<p>Metrolinx staff committed to reviewing its communication distribution practices related to meeting regulatory obligations and will ensure future communications are sent to a broader area. As well, they also committed bringing mailing areas to future meetings with the community to ensure that all residents who may be impacted are included.</p> <p>During the second round of consultation Metrolinx went beyond the recommended 30m requirement and sent mailers to property owners within 100m of the study area. Mailers were sent via Canada Post Smartmail Marketing Campaign. Over 500,000 addresses were included in the 100m study area mail out.</p>
10	FAQs / Round 1 PICs (Whitby)	Electrification Benefits and Impacts	What are the main benefits of electrifying?	<p>The main benefits of electrification are:</p> <ul style="list-style-type: none">• Improved Service Reliability<ul style="list-style-type: none">○ More frequent service reduces reliance on scheduled trips and increases the number of available seats○ Lower operating and maintenance costs; we can offer more trips with electric service than diesel service• Reduced Travel Times and more Attractive Service<ul style="list-style-type: none">○ Electric trains can accelerate and decelerate faster and stay at top speed for longer, saving time for customers○ By attracting additional riders, frequent electric train service reduces road congestion and reduces greenhouse gas emissions from automobiles○ Regenerative braking puts energy back into the system• Reduction in Greenhouse Gas (GHG) Emissions, which form a minor part of the regional emissions total• Improved Air Quality <p>The benefits of electrification can be found in the presentation displayed at the first round of public meetings and online at https://www.metrolinxengage.com/sites/default/files/go_electrification_public_meeting.pdf</p>
11	Via Email	Electrification Benefits and Impacts - Adjacent Development	Will Electrification impact the current design criteria related to development adjacent to GO Transit infrastructure (GO Stations, rail corridor, power supply, substations etc.)? If yes, what are the changes? How will proposed infrastructure impact development adjacent to GO Transit infrastructure?	<p>The Metrolinx Adjacent Development Guidelines outline requirements for new residential developments within 300 metres of Metrolinx’s rail corridors. At this time, we don’t anticipate needing to up these guidelines to address the future electrification of the GO network.</p> <p>There will be visual impacts of varying degrees due to the implementation of the Overhead Contact System (OCS) - poles, wires along the rail corridors. Visual impacts are being assessed as part of the GO Rail Network Transit Project Assessment Process (TPAP). Recommended mitigation measures (where required) will be developed in the form of design guidelines for each type of visual impact that is identified. These guidelines may include:</p> <ul style="list-style-type: none">• Possible setbacks from surrounding structures and land uses,• Screening techniques such as fencing and landscaping; and• Recommendations related to materials and colours of infrastructure components. <p>In addition, as part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review the electrification facilities possible design/treatments to enhance aesthetics where possible. Mitigation measures such as screening options of the facilities (where required) may also be considered.</p> <p>With regard to electromagnetic interference and grounding requirements, electrification wires are similar to utility (e.g., hydro) wires. Their installation will follow strict electrical safety codes and will be installed high off the ground or buried similar to power lines across Ontario. In addition, bridge screening will be provided on all overhead bridges to protect pedestrians from electrification equipment. Grounding and bonding will be put in place to ensure there are no safety risks.</p>
12	Via Email	Electrification Benefits and Impacts – Adjacent Development	What are development setback requirements [regarding Maple PS in Block 27 development in Vaughan]? Is there any other infrastructure	<p>At this time, no other Metrolinx infrastructure is planned for the Block 27 area.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			proposed or being considered within Block 27 or in close proximity?	
13	Via Email	Electrification Benefits and Impacts - Air Quality	The electrification of passenger rail transportation in Ontario, is probably our greatest opportunity to reduce CO2 emissions but it will need to be achieved without increasing natural gas generation. Since transit takes place during peak hours when gas plant generation is increased to match load, an increase in GHG emissions will result.	Metrolinx's 2010 GO Electrification Study concluded that electrifying the entire GO Rail Network would result in a reduction of 94% of the GO Rail Network's future GHG emissions vs. continued use of diesel propelled locomotives. Regardless of peak demand increases, the net level of CO ₂ emissions will be lower in an electrified system. By 2025, much of the newly installed electricity generating capacity in Ontario will come from increases in wind and solar, with similar increases in the forecasted energy production from these very low GHG emission sources. GO's daily electricity demands will be relatively predictable once the conversion has been completed and should not contribute significantly to the need for additional peak period electricity generation using natural gas. Conservation, energy efficiency and emerging energy storage technologies will also all help to reduce the future demand for natural gas generated electricity.
14	FAQs	Electrification Benefits and Impacts – Air Quality	What are the air quality benefits of electrifying the GO network?	The only GHG emissions produced by electric trains are the emissions created through the generation of electricity that powers them. As noted in the 2010 Electrification Study, it is predicted that there would be a 94% reduction in emissions from the operation of GO Transit electric trains. Likewise, electric trains do not emit Critical Air Contaminants (CAC). It is also important to note that there are predicted air quality and GHG emission benefits resulting from reductions in indirect emissions from personal automobiles. As the improvement of the service will likely increase GO transit ridership, personal vehicle trips may be reduced, resulting in potentially fewer total emissions from automobiles. An air quality study is being carried out as part of the GO Rail Network Electrification TPAP that will consider the overall air quality benefits of electrifying the GO network.
15	Via Email	Electrification Benefits and Impacts – Air Quality – Coordination with the 2015 Paris Agreement	How is the project meeting the requirements of the 2015 Paris Agreement on Climate Change?	We are committed to creating a sustainable transportation network and reducing greenhouse gas emissions.
16	FAQs	Electrification Benefits and Impacts – Construction Impacts	What are the primary construction impacts?	Construction activities for electrification are anticipated to be as follows. a) OCS: installation of OCS foundations via excavation along the rail right-of-way (ROW), installation of OCS poles, installation of OCS wiring involving running the contact and messenger wires to occur concurrently with OCS structure foundation installation, install gantry foundations and gantries. b) Construction of traction power facilities which may include: Site clearing, Install building foundation, Install prepackaged equipment, construct building, install grounding and bonding. c) Duct bank installation involving: soil excavation; install duct banks, backfill soil/restore site. d) Bridge work including: OCS attachments to bridge structures, install flash plates where required, construct bridge barriers where required, modifications to achieve required vertical clearance.
17	Via Email	Electrification Benefits and Impacts – Crossings	Are any changes proposed to the existing GO overpass bridge on Keele St (just north of Teston Rd.) or the existing GO at grade crossing on Kirby Road (between Jane St and Keele St)?	Based on the conceptual design, it has been determined that the bridge on Keele Street, just north of Teston Road, does not meet the minimum clearance requirements for electrification. Therefore, as part of the detailed design process, Metrolinx will examine different solutions to determine the most appropriate method for creating the required clearance for electrification infrastructure to run under the bridge (e.g., raise bridge, lower tracks, OCS solution, etc.). This process will involve engaging with the local municipality to discuss solutions.
18	Via Metrolinx Engage	Electrification Benefits and Impacts – Economic	Economic impact of producing the "fuel" in Ontario - will electrification require greater employment in the electrical utilities sector?	Electrification will create job opportunities, particularly during the construction phase. After construction is complete and operational, the electrification system will need people to operate and maintain the system that have similar skill sets as those who maintain electrical utilities. Note that Metrolinx or its contractor will be responsible for hiring these people to maintain the electrification system.
19	Via Email	Electrification Benefits and Impacts – Employment	Concerns regarding loss of direct and indirect jobs due to electrification.	Metrolinx does not foresee any reason electrification would directly result in the loss of jobs.
20	FAQs	Electrification Benefits and Impacts – GO Transit Commute	How will my commute be affected by construction?	As with any construction, there will be some effects to our service and customers. For example, there may be temporary slow orders during construction. However, we will stage the work to minimize impacts to customers. The impacts will be temporary in nature but will result in a more frequent, reliable service.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
21	Via Email	Electrification Benefits and Impacts – Land Acquisition	Will existing GO corridor right-of-way/property limits be maintained? If changes are proposed, what are they?	Metrolinx only acquires property when it is absolutely necessary and all options have been exhausted.
22	Round 1 PICs (Stouffville)	Electrification Benefits and Impacts – Natural Environment	As a former user of the Unionville GO Station, once or twice a year deer would show up north of the station.	Comment noted, and passed on to our Natural Environment Team for consideration in the Natural Environment Impact Assessment.
23	FAQs	Electrification Benefits and Impacts – Noise	Are electric trains quieter than diesel trains?	Yes, without an internal combustor engine onboard electric trains are noticeably quieter. Think of the difference between an electric car and gas powered car. There will still be noise from the wheel/train regardless of diesel/electric trains.
24	Via Email	Electrification Benefits and Impacts – Noise	Consider replacing wooden sound barrier fence along Lakeshore East Corridor at Old Riverdale with a modern, concrete noise-reduction barrier as part of the electrification project.	Currently noise walls, and other ways of mitigating noise and vibration along rail corridors, are considered through the Environmental Assessment Process when new infrastructure is being proposed. Metrolinx follows all regulatory guidelines and requirements to mitigate noise and as part of plans to bring 15 minute, two-way electrified GO service to the network, noise levels related to the increased number of trains are being assessed and can be brought to future meetings with the Riverdale community.
25	Round 1 PICs (Unionville, Scarborough, Brampton, Oakville)	Electrification Benefits and Impacts – Noise and Vibration	Concerns regarding noise and vibration levels from increased service, especially for those living adjacent to the tracks. Whistle noise? Effects to foundations? Mitigation measures?	<p>As part of the environmental assessment, we did assess the impacts of noise from the increased service in the area. The representative location that we assessed closest to where you live show that the noise levels are increasing by 3.9 dB at night from the current levels with the future expanded and electrified GO service. This does not trigger 5 dB threshold for considering noise mitigation as outlined the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol.</p> <p>However, Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol.</p> <p>Metrolinx is governed by the federal whistling guidelines for safety and protection of train riders, residents, and operating staff. Special exemptions for anti-whistling can be issued, provided that certain conditions are met. This process must be initiated by the municipality to Transport Canada and not Metrolinx. Members of the public can submit a request to the municipality to suspend train whistling in a specific area. Even if whistling is not used at crossings, trains may use their bells as a warning devise at crossings instead.</p>
26	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	What is the impact to the homes situated close to the lakeshore east tracks? With electrification and increased train service what will the noise level impact be for residents? We feel our home shake when the trains pass by.	<p>A system-wide noise and vibration study was completed to investigate the impacts of increased GO service as well as noise generated from the electric infrastructure.</p> <p>For noise, the results of the assessment identified locations where the increase in noise triggers the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise Protocol. In other words, locations that have a 5 dB increase in noise from the existing service and the planned future service will be investigated for noise mitigation.</p> <p>Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can be made to reduce noise to the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the GO Transit/MOECC Noise Protocol.</p> <p>With regards to vibration from the GO service, Metrolinx completed a vibration modelling assessment as part of the GO Rail Network Electrification TPAP. The predicted existing and future vibration levels and change in vibration levels were evaluated.</p> <p>In certain cases along the Lakeshore East corridor, the predicted change in vibration level between existing conditions and future conditions (Electric RER scenario) was found to be in excess of the 25% increase threshold set out in the GO Transit/Ministry of the Environment and Climate Change (MOECC) Vibration Protocol, at the identified receptors. Therefore, vibration mitigation such as ballast mats, under sleeper pads or resilient fixation will be investigated at applicable areas along the corridor to help reduce vibration from the GO service.</p>
27	Via Email	Electrification Benefits and Impacts – Noise and Vibration	Are electric trains more quiet then diesel? If so, by how much? Will vibration be cut down?	<p>Yes, without an internal combustor engine onboard electric trains are noticeably quieter. Think of the difference between an electric car and gas powered car. However there will still be noise from the wheel/train regardless of diesel/electric trains.</p> <p>Vibration levels associated with the operation of electric trains is expected to be equal to or lower than the vibration levels associated with the existing diesel fleet.</p>
28	Round 1 PICs (Burlington)	Electrification Benefits and Impacts - Power Supply	How much additional power drain at peak times is required from Hydro One? Concern with respect to future electricity transmission corridor requirements.	The Province of Ontario, The Ministry of Energy and the Independent Electricity Systems Operator (IESO) have a multi-year strategy for maintaining the electricity system in the Province. The <i>Long-Term Energy Plan: Achieving Balance (2013)</i> examines cost effectiveness, reliability, clean energy, community engagement, conservation, and new generation buildout (Ministry of Energy, 2013). The current plan examines these principles through to 2025. This document includes annual reporting, and is subject to three year reviews. Any cumulative demands on the network which result from electrification would

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				be captured under IESO’s energy planning mandate. Presently it is not anticipated that any new electrical supply would be required to operate electrified trains. We are working very closely with Hydro One. They are a co-proponent with Metrolinx on the GO Rail Network Electrification TPAP. Metrolinx is working with Hydro One to ensure that the addition of an electrified GO service does not impact the electricity supply/demand balance for Ontario’s electricity system, and to minimize the impact of transmission facilities required to support the Metrolinx Electrification program. New connection facilities will use existing corridors.
29	Via Email	Electrification Benefits and Impacts – Power Supply/Cost	What will be the impacts to the power supply for residents during installation of OCS and during operations? Will there be more power outages/brownouts or increased utility costs? How will planned power shut downs during maintenance be communicated to residents?	We don’t expect any impacts to adjacent properties with regards to power surges or impacts to other services such as telecommunications. We are working with Hydro One, as a TPAP co-proponent, to ensure a continuous stream of electricity supply. Metrolinx is working with Hydro One to ensure that the addition of an electrified GO service does not impact the electricity supply/demand balance for Ontario’s electricity system.
30	Via Email	Electrification Benefits and Impacts - Rail Crossings	I own a property that the Stouffville Corridor runs through, will the crossing on my property be affected? For overpass/underpass GO line/road crossings, what is the minimum clearance required from the track to the underside of bridges or road surface? In areas where a road crossing a GO line is proposed, what are the requirements to determine the type of crossing (i.e., at grade crossing, overpass/underpass crossing)?	The Overhead Contact System (OCS) will run the entire length of the Stouffville corridor. The maximum height for vehicles and loads according to the Highway Traffic Act is 4.15 m. The electrical wires associated with the OCS located at road-rail grade crossings will be equal to or higher than the required clearance of a hydro utility line that would normally cross the road. Generally, higher voltage wires are located higher on utility poles to maintain clearance requirements. The code requires a minimum clearance of 6.0 m and the design of this project will provide a minimum clearance of 6.7 m. This minimum clearance height will allow for most farming vehicles to pass under the OCS. Road-rail crossings are important pieces of shared infrastructure with municipalities. Metrolinx is in the process of assessing the existing 184 road-rail crossings across the network as part of an effort, in consultation with municipalities, to determine which, if any, ought to be replaced with an underpass or overpass. This includes the road-rail crossing at Kirby Road, between Jane Street and Keele Street. The absolute minimum vertical clearance (from top of rail to the bottom of an overhead bridge ranges from 5.9 metres to 6.9 metres depending on the ability to affix the Overhead Contact System (OCS). For any new overhead bridges, the vertical clearance standard is 7.4 metres to avoid affixing the OCS to the structure.
31	FAQs	Electrification Benefits and Impacts – Train Speed	Are electric trains faster than diesel trains?	Electric trains accelerate faster than diesel trains, allowing electric trains to run a rail corridor faster. Maximum speeds on the corridors are dictated by many things like track geometry, signal systems, overhead bridge clearances etc. Like highways, rail corridors have speed limits as well. Both diesel and electric trains can operate at speeds over 100 mph (160 km/h), however once trains start reaching high speed rail speeds (over 150 mph/241 km/h) electric trains are more common practice.
32	Via Letter Mail	Electrification Benefits and Impacts - Utilities	Will Metrolinx be financially responsible for the relocation of utilities at TPF sites?	A Utilities Impact Assessment study is being carried out as part of the GO Rail Network Electrification Transit Project Assessment Process (TPAP) to identify potential utility impacts/conflicts associated with the project. Solutions and mitigation measures for utility conflicts will be further examined in coordination with each Utility owner during detailed design and may include but not be limited to: removal, relocation or reconfiguration.
33	Via Email / Metrolinx Engage	Electrification Benefits and Impacts - Visual	Disappointment over use of overhead wires, as they are unsightly and will affect property values. OCS poles should look as good as possible, and as few as possible should be installed. Metrolinx failed to ask the public their opinion before even deciding on a design to pursue.	On January 19, 2011, Metrolinx released the findings of its comprehensive study on the electrification of the entire GO Transit rail system and the future UP Express, as a future alternative to Tier-4 diesel trains. The Study considered the economic, social, environmental, health, and technological factors for current and future diesel and electric technologies. The primary reason why an Overhead Contact System is preferred over a Third Rail system (method whereby a conductor is placed alongside or between the rails of a railway track) is due to safety. Third rail has more safety risks associated with potential pedestrian contact with electrified infrastructure, particularly for a largely open corridor such as the GO Transit Network. A Visual Impact Assessment (VIA) study is being carried out in order to identify potential sensitive visual receptors areas along the corridors and to assess potential visual effects due to electrification. As part of this study, mitigation measures will be established as appropriate, to minimize visual effects to neighbouring residents (e.g., in-design measures to enhance aesthetics of the infrastructure, consideration of screenings, etc.). The results of the Visual Impact Assessment will be incorporated within the Environmental Project Report (EPR), which will be made available for public review and comment. The TPAP process under O. Reg. 231/08 does not require proponents to evaluate alternatives to the undertaking or alternative design methods. Notwithstanding this, Metrolinx carried out a comprehensive Electrification Study in 2010 which examined multiple technologies, scenarios and options for electrifying the GO Network. During the course of that study, extensive consultation was conducted with elected officials, review agencies, and members of the public to obtain input on the future electrification of the GO Rail Network. A copy of this report can be accessed online: http://www.gotransit.com/electrification/en/project_history/docs/ElectrificationStudy_FinalReport.pdf
34	Via Email / Round 1 PICs (Aurora)	Electrification Benefits and Impacts - Visual	Visual impacts of OCS for residents in units facing the rail lines, and the ensuing negative effect on property values.	The overhead contact system (poles and wires for electrification) will be about 7 metres high. The Metrolinx Board has directed staff to ensure design excellence and international best practices to help minimize the visual impact of the overhead catenary system. More information on the overhead contact system will be available at future public meetings on electrification.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			Specific concerns relating to Old Riverdale along the Lakeshore East Corridor: we suggested that planting tall evergreen trees along the north side of the corridor on Metrolinx land, as was recently done at the foot of Lount St, would be an effective way to mitigate visual pollution. Could you please consider whether Metrolinx might consider extending the tree plantings already made along this portion of the corridor as part of the electrification project.	Removal of trees in the rail corridor will need to be considered where they pose a safety risk to the electrification system and service. Our standard is to have a third-party arborist complete a report identifying where there are any potential tree conflicts and recommend a tree removal and replacement strategy. When any trees are removed we work with the community, the City of Toronto and the TRCA to determine the best plan for replanting trees within the community. It is difficult to speculate on the impacts to property values. In general, there is evidence to show that when homes are located close to transit, the close proximity can have a positive impact on property value. However, each property is different. There are other factors that can determine property value. For example, the economy and housing markets, changing characteristics of the area, manufacturing demand, local employment, etc.
35	Via Email	Electrification Impacts and Benefits – Property Value	What will be the impact of this project in regards to potentially decreasing the value of our house.	It is difficult to speculate on the impacts to property values. In general, there is evidence to show that when homes are located close to transit, the close proximity can have a positive impact on property values. In addition, the close proximity to a transit station can also have a positive impact on property values. However, each property is different and there are other factors that can determine property value.
36	Round 1 PICs (Aurora)	Electrification Impacts and Benefits - Flood Plain	Explain effect of new lines on the floodplain in the area.	As part of the GO Rail Network Electrification TPAP, a Stormwater Management Assessment is being conducted at TPF and Tap locations to establish flows for each of these sites. During detailed design, additional more detailed stormwater management assessments/plans will be required in order to calculate what is needed to accommodate the flow, and flood impact requirements will be reviewed and incorporated into the final design. It is not expected that OCS infrastructure along existing rail corridors will affect flooding.
37	FAQs	Electrification Infrastructure – Visual	What is being done to enhance the visual/aesthetics of the new electrified system?	Visual impacts are being assessed as part of the EA. Recommended mitigation measures (where required) will be developed in the form of design guidelines for each type of visual impact that is identified during the EA. These guidelines may include: <ul style="list-style-type: none">• Placement recommendations such as setbacks from surrounding structures and land uses, avoidance of identified important vistas;• Recommendations for screening techniques such as fencing and landscaping; and• Recommendations related to materials and colours of infrastructure components. In addition, as part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review the electrification facilities possible design/treatments to enhance aesthetics where possible. Mitigation measures such as screening options of the facilities (where required) may also be considered.
38	FAQs	Health and Safety	How will the public be kept safe from the electrified infrastructure?	Electrification wires are similar to utility (e.g., hydro) wires. Their installation will follow strict electrical safety codes and will be installed high off the ground similar to power lines across Ontario. In addition, bridge screening will be provided on all overhead bridges to protect pedestrians from electrification equipment. Grounding and bonding will be put in place and tested regularly to ensure there are no safety risks.
39	FAQs	Health and Safety	Is there an increased risk of fire with electric trains?	A properly installed and maintained electric service is no more of a risk for fire than a diesel service.
40	FAQs	Health and Safety	Why is grounding / bonding required?	Like your home, anything that requires electricity to operate requires bonding and grounding for safety. Electric trains are no different. “Grounding” is a safety measure used to help prevent people from accidentally coming in contact with electrical hazards. Think of a refrigerator. It is a metal box standing on rubber feet with electricity running in and out of it. The electricity running from the outlet and through the power cord to the electrical components inside the refrigerator are electrically isolated from the metal exterior of the refrigerator. Similarly, the OCS wires will need to be connected to something that is in turn connected to the earth or ground outside to help prevent people from accidentally coming in contact with electrical hazards. Typically this connection is a grounding electrode, such as a ground rod.
41	FAQs	Health and Safety	Are electric trains as safe as the current trains?	Electric trains and diesel trains are equally safe.
42	FAQs / Via Email	Health and Safety	What are the effects of electromagnetic interference (EMI) on the environment / my health?	With respect to electromagnetic fields, an Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Impact Assessment is being conducted as part of the GO Rail Network Electrification Transit Project Assessment Process (TPAP). Generally speaking, with respect to the baseline EMI measurements taken at various locations along the corridors, there were no background levels above industry standards and no expected adverse EMI/EMF impacts are anticipated due to the implementation/operation of electrification infrastructure. Once the electric rolling stock has been determined during detailed design, additional EMI/EMF testing and validation will be completed to confirm these findings. Additional information related to EMF can be found on Health Canada’s website: http://healthycanadians.gc.ca/healthy-living-vie-saine/environnement-environnement/home-maison/emf-cem-eng.php

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
43	Round 1 PICs (Scarborough) / Via Email	Health and Safety	How safe are the wires? What emergency systems would be in place to protect a nearby playground and parking lot should there be an accident with the electrical wires? How will lightning affect the trains and nearby homes/residents if it strikes the wires?	At Metrolinx, safety is our top priority. With respect to the safety measures associated with the electrified system, electrification wires are similar to utility (e.g., hydro) wires. In addition to being designed to strict safety codes, wires will be installed high off the ground similar to power lines across Ontario. The system will be equipped with equipment that protects the public from the hazards associated with downed power lines. Breakers installed in the substations are similar to those in your home, but they are much more advanced. Grounding and bonding measures will be put in place across the GO network to ensure there are no safety risks. Similar to a utility company, Metrolinx will have dispatchers watching the system for any indication of trouble or problems and will be able to turn power off anywhere on the system at a moment's notice. Metrolinx is designing the electrification infrastructure to deal with any lightning events associated with thunder storms. All electrification infrastructure will be properly grounded so that any electricity from a potential lightning strike would dissipate into the surrounding ground. There is no increased risk from lightning events with the electrification of the rail corridor.
44	Round 1 PICs (Stouffville)	Health and Safety	Will the corridor be fenced?	Metrolinx may consider the construction of fencing at certain sections of the rail corridors should a need arise. However, Metrolinx is not considering fencing the rail corridors in their entirety.
45	Via Email	Health and Safety	Will there be any specific fencing requirements? How far from stations and road crossings will fencing be required?	Metrolinx will be securing its rail corridors to prevent trespassing. All fencing within 4 metres from track centre at the top of rail will be grounded, complying with all applicable local, national and international codes and standards. Where there are road-rail crossings, fencing will terminate on either side of the crossings.
46	Round 1 PICs (Mimico)	Health and Safety Health / EMF	Environmental and health effects of electrification, especially with the increase in the frequency of the trains.	As part of the TPAP, potential effects related to Electromagnetic Fields (EMF) will be considered and assessed as part of the impact assessment phase of the project. This assessment will involve investigation of the existing EMF levels at various locations along the corridors to establish a baseline, followed by an estimation of EMF levels with electrification in place. Mitigation measures to reduce or eliminate potential adverse effects related to EMF will be proposed, if required. The results of the impact assessment studies will be documented in the Environmental Project Report, which will be made available for public review. It should also be noted that additional testing and analysis will be carried out during the detailed design phase prior to electric train operations commencing to confirm the results of the studies completed during the TPAP phase. It should also be noted that a similar Electromagnetic Interference (EMI) and EMF study was completed as part of the previous UP Express Electrification TPAP project. This study concluded that the conservatively estimated combined maximum electric and magnetic fields from the railway system after electrification was below the industry standards for human exposure limits.
47	Round 1 PICs (Stouffville, Oakville, Aurora) / Via Email	Land Acquisition	Will any land (additional) be required, and when will discussions on land requirements commence? How will landowners be notified? Who will acquire and pay for land? How will landowners be compensated for loss of land related to proposed works?	Metrolinx only acquires property when it is absolutely necessary and all options have been exhausted. We will contact property owners that may be impacted by any proposed projects to expand transit across the region. If property is required, Metrolinx will work to provide fair and reasonable compensation for all property rights that are required.
48	Via Email / Round 1 PICs (Brampton)	Land Acquisition – Maple PS	If the Kirby GO Station is recommended, will the Maple Paralleling Station be located within the Kirby GO Station property boundary or will additional land be required for the Maple PS?	In June 2016, a new GO station was announced at Kirby. We have not identified the exact location of the station. To learn more about new stations, please visit www.metrolinx.com/stations .
49	FAQs	Project Scope	What is the scope of the GO Rail Network Electrification TPAP?	The scope of the GO Rail Network Electrification TPAP involves electrification of the following GO rail corridors: <ul style="list-style-type: none">• Union Station Rail Corridor (USRC) – From UP Express Union Station to Don Yard Layover (UP Express Union Station to Strachan Avenue was previously assessed/approved as part of the UP Express Electrification EA and is therefore not included in the EA Study Area).• Lakeshore West Corridor – From Strachan Ave to Burlington• Kitchener Corridor – From UP Express Spur (at Highway 427) to Bramalea (Strachan Avenue to UP Express spur (at Highway 427) was previously assessed/approved as part of the UP Express Electrification EA and is therefore not included in the EA Study Area)• Lakeshore East Corridor – From Don Yard Layover to Oshawa GO Station• Barrie Corridor – From Parkdale Junction (off Kitchener Corridor) to Allandale GO Station• Stouffville Corridor – From Scarborough Junction (off Lakeshore East Corridor) to Lincolnville GO Station Portions of the Richmond Hill Corridor are not currently owned by Metrolinx. In addition, this corridor presents engineering complexities for electrification infrastructure because part of the corridor being located within a floodplain. This needs to be resolved prior to electrification. Similarly, the Milton corridor, part of the Kitchener corridor, and part of the Lakeshore West corridor are not currently owned by Metrolinx. While these corridors are not being assessed as part of this TPAP, the electrical power supply for the GO network is being designed with future electrification of all corridors in mind.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
50	FAQs	Project Scope	How does the project compare to global examples?	There are a number of places in North America, Europe, Asia, Australia and Africa where electrified commuter railways of a much higher capacity have been in service for a number of years. In Canada, a similar railway system exists and was built to serve the Montreal area Deux Montagnes. In the United States, a comparable example of an electrified rail system is the North East Corridor (New Jersey), Metra Electric Commuter Rail (Chicago), Metro North (Connecticut), Southeastern Pennsylvania Transportation Authority (Philadelphia), Maryland Area Regional Commuter (Baltimore), Northern Indiana Commuter Transportation District (Northern Indiana), Regional Transportation District (Denver), and CALTRAIN (coming soon to San Francisco).
51	Via Voicemail	Project Scope	Will Milton, Georgetown, Acton and Cambridge be represented at regional meetings? What updates/upgrades/services will be available at these locations, or are they not included?	The scope of the current GO Rail Network Electrification TPAP project does not include Milton, Georgetown, Acton and Cambridge, as Metrolinx does not own these areas of corridor.
52	Via Email	Project Scope - Corridor Boundaries	Confusion regarding the terminology for indicating the beginning and end of each corridor for TPAP purposes. Will there be stations at Strachan Avenue, Don Yard Layover, Parkdale Junction, and Scarborough Junction?	These points mark the beginning points of the corridors, for the organizational purposes of the TPAP. There will be no station stops at these locations. Individual maps of the corridors were included in the response.
53	Via Email	Project Scope - Lakeshore East Corridor	Is the rail area in the neighbourhood of Greenwood Avenue part of both the Lakeshore East and the Stouffville Corridors?	Yes, this neighbourhood is adjacent to a section of the rail corridor on which both Stouffville and Lakeshore East trains operate.
54	Via Email	Project Scope – Lakeshore East Corridor	What is the relationship between the Electrification project and the Guildwood to Pickering project?	The Lakeshore East (Segment 3) Guildwood to Pickering TPAP is still in the pre-engagement phase. Lakeshore East is one of the rail corridors to be electrified. Some of the work to electrify this corridor will take place during the rail expansion work (i.e. adding track, widening bridges etc.).
55	Via Email	Project Scope – Kitchener Corridor	Why isn't the entire Kitchener line being electrified?	<p>The portion of the Kitchener Corridor, from Bramalea GO Station to west of Georgetown, is currently owned by Canadian National Railway (CN). In June 2016 Metrolinx announced an expansion of GO service to Waterloo Region. An agreement-in-principle has been reached with CN, part of which is for the planning and technical analysis to build a new freight corridor that will allow CN to shift most of its freight traffic from the section of the Kitchener corridor the company owns to the new corridor. That will free up capacity for more GO service through Brampton to Kitchener. You can view the full details of this announcement here: https://news.ontario.ca/opo/en/2016/06/ontario-expanding-go-rail-service-to-waterloo-region.html</p> <p>At this time, Metrolinx is only proposing to electrify Metrolinx-owned corridors. Further discussions and negotiations with CN are required before electrified service beyond Bramalea is feasible. Therefore, in the absence of agreements and uncertainty of timeframe the GO Rail Network Electrification TPAP will only be considering electrification to Bramalea Station.</p> <p>Once electrification is implemented, Metrolinx will operate a mixed fleet of both diesel and electric trains. The operating schedule has not yet been determined but it is important to note that diesel trains will still be able to operate along the electrified corridors to service passengers travelling west of Bramalea GO Station.</p> <p>In 2014, Metrolinx completed an environmental assessment to electrify the UP Express service from Union Station to Pearson Airport. The current network-wide environmental assessment picks up where the previous EA left off by assessing electrifying the rail corridor from Pearson Airport spur to Bramalea.</p>
56	Round 1 PICs (Brampton, Whitby, Burlington) / Via e-mail	Project Scope -Extent of Electrification	Further electrification of the rail corridors line in the future / how will people travel past the end of the electrified corridors.	<p>The scope of the GO Rail Network Electrification TPAP involves electrification of the following GO rail corridors:</p> <ul style="list-style-type: none">• USRC – From UP Express Union Station to Don Yard Layover (UP Express Union Station to Strachan Avenue was previously assessed/approved as part of the UP Express Electrification EA and is therefore not included in the EA Study Area).• Lakeshore West Corridor – From Strachan Ave to Burlington• Kitchener Corridor – From UP Express Spur (at Highway 427) to Bramalea (Strachan Avenue to UP Express spur (at Highway 427) was previously assessed/approved as part of the UP Express Electrification EA and is therefore not included in the EA Study Area)• Lakeshore East Corridor – From Don Yard Layover to Oshawa GO Station• Barrie Corridor – From Parkdale Junction (off Kitchener Corridor) to Allandale GO Station• Stouffville Corridor – From Scarborough Junction (off Lakeshore East Corridor) to Lincolnville GO Station <p>Portions of the Richmond Hill Corridor are not currently owned by Metrolinx. In addition, this corridor presents engineering complexities for electrification infrastructure because part of the corridor being located within a floodplain. This needs to be resolved prior to electrification. Similarly, the Milton corridor,</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				part of the Kitchener corridor, and part of the Lakeshore West corridor are not currently owned by Metrolinx and are thus outside the scope of the TPAP. Further discussions with other owners are required before electrified service can be implemented. It is not anticipated that these issues will be resolved within the timeframe of the TPAP. While these corridors are not being assessed as part of this TPAP, the electrical power supply for the GO network is being designed with future electrification of all corridors in mind. Once electrification is implemented, Metrolinx will maintain a mixed fleet of both diesel and electric trains. It is important to note that diesel trains will still be able to operate along the electrified corridors, so passengers will not have to switch trains to continue traveling past the point of electrification. Please note that the actual service plan is still under development and this issue will be part of the analysis. For further information please visit: http://www.metrolinx.com/en/regionalplanning/rer/rer_service.aspx
57	Round 1 PICs (Aurora)	Project Timeline	Recommendation for specific timelines for the various phases of work along the different corridors.	At this time, a construction phasing strategy has yet to be finalized. This information will be made publically available when it has received final confirmation and approval.
58	Via Email	Project Timeline	Why has the project timeline for the Network Electrification TPAP changed?	The schedule presented back in early 2016 was based on early assumptions and a desire to complete the GO Network-wide Electrification Transit Project Assessment Process as soon as possible. However, during early engagement with communities, a number of concerns were raised, such as the location of traction power facilities in some areas, that we committed to working through these with residents and so extended the time for public engagement across the GO network.
59	Round 1 PICs Brampton / Via e-mail / FAQs	Project Timeline - Phasing	Which corridors are being electrified first/what is the phasing plan for electrification? Specifically regarding Lakeshore West and north of Unionville. Timeline for electrification needs to be expedited, maybe look at a five-year goal as opposed to a ten-year goal.	Electrification is planned to take place over a 10 year timeframe; the phasing plan is a work in progress and will initially involve testing of rolling stock on a commissioning track. As a result, a definitive year for the completion of the Lakeshore West Corridor electrification is unavailable at this time. Although, the timeframe for construction of the entire network is projected to be undertaken between 2018 and 2025, the exact time frame for completion north of Unionville is not known at this time. Due to the significant scale of the study and the other various projects that Metrolinx is currently undertaking, a five year timeline to complete electrification is not possible.
60	Via Email	Contract / Tendering	Construction start and end dates for each corridor. RFQ dates, contract type (labour and materials etc.)?	At this time we cannot provided answers to your questions regarding RFQ dates, construction schedules, or contract types, as this would contravene procurement confidentiality.
61	Via Email	Contract / Tendering	Have experience in managing traction wire installation and design. Interested to learn more especially if there is an opportunity to be involved in the contract. If opportunities exist are they as direct or sub contract employment contracts?	We will need a large resource of skilled people in Electrification along with other systems like signaling and Comms which is also renewing the existing system. The program is 10 years, the procurement and delivery is modelled around a DBFOM approach which means the resource you supply would be delivered under a consortium due to the financial conditions driven by allocated program duration, activities and risk. The Program is currently carrying out a market sounding within the industry with many of the big international companies in town. This will form more than likely an Alliance. There is also a technical advisor on board, Gannett Fleming is delivering the EA/Engineering / Procurement support and other associated work under Electrification and they have worked on all the heavy rail Electrified lines in the US.
62	FAQs	RER – Definition and Electrification	What is Regional Express Rail (RER)? / How is electrification linked to RER?	Metrolinx is helping to transform the way the region moves by building a seamless, convenient and integrated transit network across the Greater Toronto Hamilton Area. Over the next 10 years, the GO rail network will be expanded to enable up to 15-minute, electrified train service in core areas and an increase of four times the number of train trips on off-peak hours and twice the current number of trips during peak hours throughout the network. The electrification of the GO network is one component of RER. Electrification is being undertaken in parallel with other projects in order to build all the infrastructure needed to increase service and electrify the corridor.
Infrastructure, Operations and Maintenance, Rolling Stock, and Other Questions/Comments				
63	FAQs / Round 1 PICs (Aurora)	Construction and Facility Siting – Facility Locations	How were the electrification facility locations determined? On the LSW corridor, why is the TPS in Mimico and Burlington instead of in the middle?	Prior to initiating the Metrolinx GO Rail Network Electrification EA, the <i>2010 GO Transit Electrification Study</i> was completed by Metrolinx to examine the power supply and power distribution requirements of the entire GO network. This comprehensive study examined the impact of different rail technologies and involved a review and comparison of the power supply and power distribution options to deliver electricity to a potential future electrified rail service. As part of this work, power simulation modelling was completed to determine the approximate geographic locations for siting the required traction power supply and distribution facilities for the electrified GO network. Building on this work, the traction power facilities for network electrification were identified as part of the EA process. There are several criteria that must be satisfied when identifying possible locations for traction power facilities: a) Proximity to high voltage: to ensure sufficient power load and to maintain high reliability of power supply, Traction Power Substations should be located as close as possible to existing Hydro One transformer stations/transmission lines, b) Proximity to rail right-of-way (ROW) - to maintain high reliability of the system, Traction Power Substations should be located as close as possible to the rail corridor, c) Traction Power Substations are spaced to maintain highest level of

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				operational flexibility with the fewest number of facilities, d) Switching stations (SWS) are required between any two substations in order to split the electrical sections, e) Paralleling Stations are spaced to maintain sufficient power quality on the system (i.e., prevent power voltage from dropping), f) Locations must satisfy minimum size requirements for the specified facility type to accommodate the electrical equipment Once possible TPF sites are identified, a more detailed comparative evaluation will be carried out involving application of several environmental, land use/socio-economic, cultural heritage, property, and technical criteria.
64	Round 1 PICs (Oakville)	Construction and Facility Siting – Communication	Notices should be put on a website or a phone number provided that local residents can call to find out if there is work on the tracks.	To receive construction updates via e-mail or text message, residents can sign up for On the GO at https://onthegoalerts.gotransit.com . Residents can also call our customer service line at 416-869-3200 (Toronto) or 1-888-438-6646 for information on construction. As with any construction, there will be some effects to our service and customers. For example, there may be temporary slow orders during construction. However, we will stage the work to minimize impacts to customers. The impacts will be temporary in nature but will result in a more frequent, reliable service. We aim to work within the hours as outlined in the municipal by-laws hours (Monday to Friday, 7 a.m. to 7 p.m.) and Saturdays (9 a.m. to 7 p.m.); however, this is not always possible. One of the biggest challenges we face is that we are working on an active corridor with trains travelling through active stations which means there are limited hours within which construction can take place. As a result, we aim to maximize construction windows so as to disrupt local residents and operations for the shortest period of time possible during the construction project. For example, snow removal has to be done when the station parking lot is empty, and track work must be completed when trains are not in service. During construction activities, noise control measures will be implemented where required through restricted hours of operation (when possible) and the use of appropriate machinery and mufflers.
65	Round 1 PICs (Burlington)	Electrification Infrastructure	Effects to Union Station Train Hall support structure, which is too low to accommodate electrification.	The clearance height of the Union Station Train Hall Support Structure is being assessed as a component of the conceptual design stage. Preliminary calculations on this issue have concluded that anticipated clearances required for electrification infrastructure will not be a concern.
66	Via Email	Electrification Infrastructure	What are the effects of the three Traction Power Facilities (TPS, PS, SWS) on residents?	Various Environmental studies are being carried out as part of the TPAP to examine the effects of the electrified system on the environment. Some of these include, but are not limited to, Natural Environment Impact, Visual, Land Use, Electromagnetic Interference, Noise and Vibration, and Air Quality. The results of these studies will be presented as part of the second round of public meetings for the TPAP and will be available for public review within the Environmental Project Report.
67	Via Email / FAQs	Electrification Infrastructure	Will the electrification of the railroad tracks be by overhead wires and/or third rail? Why can't electrification be achieved through third rail?	The electrified GO Rail Network will operate using an Overhead Contact System (OCS). OCS is a series of overhead wires which supply electricity to the electric trains. Power is supplied to the train through the pantograph which makes “contact” with the OCS. On January 19, 2011, Metrolinx released the findings of its comprehensive study on the electrification of the entire GO Transit rail system and the future UP Express, as a future alternative to Tier-4 diesel trains. The Study considered the economic, social, environmental, health, and technological factors for current and future diesel and electric technologies. The primary reason why an Overhead Contact System is preferred over a Third Rail system (method whereby a conductor is placed alongside or between the rails of a railway track) is due to safety. Third rail has more safety risks associated with potential pedestrian contact with electrified infrastructure, particularly for a largely open corridor such as the GO Transit Network.
68	FAQs	Electrification Infrastructure - Maintenance	Who will maintain the electrification infrastructure?	Metrolinx will be hiring a contractor who will be responsible for Designing, Building and Maintaining the electrification infrastructure.
69	FAQs	Electrification Infrastructure - TPFs	What is the purpose of a Traction Power Substation (TPS)?	The purpose of a traction power substation is to provide electricity from the existing Hydro One Network to the Overhead Contact System (OCS) along the rail corridor, which then power electric trains. A Traction Power Substation also transforms the supply voltage from 230 kV to 25 kV for distribution along the rail corridor.
70	FAQs	Electrification Infrastructure – TPFs	What is the purpose of a Switching Station?	A Switching Station is a traction power facility equipped with the electrical equipment that allows for switching power between one power source and another. Switching stations are typically located between any two traction power substations to split the electrical sections.
71	FAQs / Via Email	Electrification Infrastructure – TPFs	What is the purpose of a Paralleling Station (PS)? What land area will be required for a PS?	Paralleling Stations are required to prevent the power voltage from dropping below permissible levels along the rail corridor. Like breaker panels in your home, they feed smaller sections of the railroad. This way, if a breaker trips in one section, it doesn't turn off power to the whole system. Just like when a hairdryer trips a circuit in the bathroom, the whole house does not lose power. We require approximately 21 m X 30 m of land in this area plus an access road.
72	Via Metrolinx Engage	Electrification Infrastructure Siting – Bramalea PS	What will happen to the employees at the Ford plant, and will the plant re-locate within Brampton?	The Bramalea Traction Power Facility will be a PS. A PS contains an autotransformer which helps support the OCS voltage in the electrified system. Metrolinx has been consulting with the Ford Motor Company of Canada on the placement of the PS. Relative to the land owned by Ford, the amount required for the PS is small and thus will not have an impact on the plant's operation.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
73	Round 1 PICs (Maple)	Electrification Infrastructure Siting – Maple PS	Conflict of Maple PS with Vaughan’s planned Block 27 development / other studies which may impact Block 27.	The Land Use Assessment, being conducted as part of the TPAP, includes a discussion of and mitigation measures for the potential conflicts between the Maple PS and the Block 27 development. Metrolinx will continue coordinating with the City of Vaughan to ensure that any conflicts are minimized to the extent possible, which may include moving the Maple PS to a different location.
74	Via Email	Electrification Infrastructure Siting – Maple PS	What is the status of the Maple Paralleling Station and is it recommended to be in the location shown or has it been approved to be in the shown location?	The proposed location of the Maple Paralleling Station (PS) has been modified from the location previously presented at the February public meetings based on feedback received and additional consultation with the City of Vaughan. The recommended location for the Maple PS facility is adjacent to the rail corridor, on the west side of Keele Street north of Teston Road. This site will be studied as part of the TPAP to determine potential environmental impacts and mitigation developed if required. All traction power facilities will be presented in the Environmental Project Report which will be submitted to the Ministry of Environment and Climate Change for review/approval.
75	Via Letter Mail	Electrification Infrastructure Siting - Scarborough TPS Location	The plans calls for a TPS location at the Scarborough Station just east and to the south of the tracks. This location has now been built up with residential houses. Is there an alternative location and has Metrolinx secured the land?	There is no Traction Power Substation facility proposed at this location. We are planning a Switching Station (SWS) directly south of 20 Gordonridge Place, north of the tracks and east of Midland Ave – not a Traction Power Facility. We try to locate this type of infrastructure in industrial areas. However, sometimes we can’t. This location is close to a high-rise residential complex with windows facing the opposite direction. We don’t anticipate any significant impacts to the residential area nearby.
76	Round 1 PICs (Oakville)	Network Design	Will the electrification require track/right of way widening near Port Credit?	All electrification work will be completed within the existing Metrolinx right-of-way at Port Credit.
77	FAQs	Operation and Service	Will the electrification of the GO system fail in snowstorms?	An electrified system is designed to stay operational under most weather conditions. Rain and snow have little effect on the system. Heavy ice storms may affect the system if wires get coated with ice, preventing electrical connections from occurring. However, running trains will assist with clearing any ice that has formed on the wires and helps to reduce build-up.
78	FAQs	Operation and Service	Can the train system lose power during a brownout?	The Hydro One high-voltage network has a very high capacity as compared to the power and energy requirements of the GO Network Electrification. Coordination with Hydro One is being undertaken to ensure electrified GO service will not be interrupted or affected by any shortages in power.
79	FAQs	Project Costs	What will the new electric rolling stock be?	Metrolinx is currently in the process of determining which electric train will be used. There are two styles of electric trains under consideration. Electric Locomotive and dual level Electric Multiple Units (EMUs).
80	FAQs	Project Costs	How much will the new electric trains cost?	The cost of the electric trains has yet to be determined.
81	Round 1 PICs (Whitby, Oakville)	Project Costs	Costs / payback period (in years/months) / cost savings? How are you funding this project – are you increasing rider’s fares?	Electrification is being funded through the Province of Ontario’s 10 year Regional Express Rail (RER) plan for transportation infrastructure in the Greater Toronto Hamilton Area (GTHA). To learn more about RER, please visit: http://www.metrolinx.com/en/regionalplanning/rer/
82	Round 1 PICs (Whitby)	Project Costs	Lack of information about costs at public meetings.	The purpose of the initial set of public meetings was to introduce the project to the public and present preliminary design concepts. More detailed costing information will be available at future public meetings when more exacted design requirements are finalized.
83	Via Email	Project Design - Electric Vehicles	Will Electric Vehicle chargers be installed as part of the "electrification" of the GO lines?	In 2013 Metrolinx partnered with Aparc Systems and Chargepoint on a pilot project that set aside parking spaces at select GO stations for electric vehicle (EV) charging. Electric charging stations can now be found at 10 GO Transit Stations across the Greater Toronto Area for the use by the public (please see http://www.gotransit.com/public/en/stations/electric.aspx for further details). While the provision of EV charging stations is outside the scope of this project, Metrolinx is committed to building sustainable transportation infrastructure to lower our carbon footprint, conserve resources, and contribute to creating a clean and healthy environment.
84	Via Email / Round 1 PICs (Burlington)	Reliability of service	Concerns regarding operational issues during cold weather/freezing rain/storm events.	The OCS for the GO Rail Network Electrification Project will be designed to meet both Canadian Standards Association (CSA) and American Railway Engineering and Maintenance-of-Way Association (AREMA) standards. Both standards require the OCS to be designed for extreme weather conditions, including temperatures of -40°C, wind speeds of up to 125 kph, and ice accumulation of 12.5 millimeters. Additionally, the OCS will be installed with tension compensation devices. These devices allow for changes due to climatic conditions, without causing the added stresses to the system. Typically the best way to avoid ice accumulation on the OCS is to continue train operation, which shakes the ice from the wires.
85	FAQs	RER – Track Expansions	Where are track expansions planned for RER and when will they be built?	It should be noted that the GO Rail Network Electrification TPAP is not examining the impacts of track expansion. The specific impacts of track expansions along the corridors are currently being assessed as part of separate EA/TPAP projects (e.g., Lakeshore East Rail Corridor Expansion (Guildwood to Pickering) EA, Lakeshore East Rail Corridor Expansion (Don River to Scarborough) EA, Barrie Rail Corridor Expansion Project, etc.) or will be assessed as part of future EA/TPAP studies. However, the conceptual electrification design will protect for future/planned tracks in order to allow enough space for the required OCS infrastructure that will be constructed.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
86	FAQs	Role of Utilities	What is Hydro One’s role in the project/process?	Electrification of the GO Transit Network requires electrical power to be supplied from Ontario’s electrical system through Hydro One’s existing high voltage grid via new connections to several new Traction Power Substations (TPS) required specifically for Electrification. The locations of these new facilities and associated high voltage connections is being coordinated with Hydro One.
87	FAQs	Role of Utilities	Why can’t other service providers like Toronto Hydro provide the power?	The electrified GO rail system needs to be supplied from a 230 kV transmission system to provide the greatest level of both reliability and efficiency. Other utilities (such as Toronto Hydro) do not provide the necessary transmission lines at these power voltages.
88	Round 1 PICs (Innisfil)	Rolling Stock	Use shorter trains for off-peak periods.	The current fleet includes 10-12 car train sets. Currently it is anticipated that the future electric fleet is expected to have approximately the same number of cars, however this will be confirmed as part of finalizing the GO Expansion operating concept.
89	Via Email	Rolling Stock	Why not use battery-operated trains, to reduce investment required in infrastructure (such as the new line of Bombardier Electrostar trains)?	We are familiar with the Class 379 Electrostar. It requires an overhead contact system (OCS) to charge the batteries. The train operates like a normal Electric Multiple Unit (EMU) when there is an OCS present and can operate on battery power to cross non-electrified lines. It is important to note that it is not intended to or capable of operating solely on battery power. Even in this scenario, large investments in infrastructure are still required. In addition, the hybrid trains cost more and the technology is currently experimental and unproven. At this time, Metrolinx is only aware of one battery diesel hybrid locomotive in operation and it is currently in an experimental phase.
90	Via Email	Rolling Stock	As there are a large number of Bi-level vehicles with much of their fatigue lives remaining consists will be powered by electric locomotives?	Metrolinx is currently assessing potential rolling stock options to determine what would be most appropriate for the GO Rail Network. At this time, a decision has not been made on whether the network will utilize EMUs or Electric locomotives, or a combination of both.
91	Via Email	Rolling Stock	Will the trains be AC- or DC-powered?	Metrolinx is still in the process of finalizing the electric rolling stock. However, the network will be AC powered, which will be a compatibility requirement when selecting the preferred rolling stock.
92	Via Email	Rolling Stock	Who would provide the new trains required?	Metrolinx is currently in the process of determining which electric train will be used. There are two styles of electric trains under consideration. Electric Locomotive and dual level Electric Multiple Units (EMUs). After determining the desired technology, Metrolinx will tender the contract in a competitive process to procure the new trains.
93	Via Email	Rolling Stock	Why would electrified trains be able to provide 15 min service on these corridors? Are they that much faster than diesel trains?	Trains will not be travelling faster than current diesel counterparts. However, electrified trains are able to accelerate faster. This allows for the trains to maintain top speed for a longer period of time thus reducing overall travel time.
94	Via Email	Rolling Stock	Do the plans for electrification of the Lakeshore East Corridor involve the use of electric locomotives or electric multiple units (EMUs)? Is the project being designed so that in the future structural elements will be compatible with EMUs?	GO RER service will consist of a mixed fleet that will include electric multiple unit trains (EMUs). EMUs accelerate faster and can be split into smaller train sets depending on demand, yielding significant cost savings compared to diesel alternatives. Our fleet strategy is to have EMU’s and electric locomotives compatible.

1.2.2.2 Pre-Planning Phase Public Meetings Round Two (October/November 2016 – February 2017)

1.2.2.2.1 Notice of Public Meeting

Metrolinx in coordination with Hydro One hosted a second round of public meetings in November 2016. In support of these meetings Metrolinx posted a Notice of Public Meeting in order to inform stakeholders of the opportunity to participate in the Round 2 public meetings. This Notice ran during the week of October 27, 2016 in newspapers which had geographic coverage of the Project Study Area. **Table 1-5** lists the newspapers in which advertisements were published and the respective dates that they were featured.

Table 1-5: Summary of Public Meeting Round Two Advertisements

Publication	Date Published
Oshawa Express	October 26, 2016
Whitby (Oshawa) This Week	October 24, 2016
Ajax/Pickering News Advertiser	October 27, 2016
Stouffville Sun Tribune	October 27, 2016
Markham Economist and Sun	October 27, 2016
Barrie Advance	October 27, 2016
Barrie Examiner	October 27, 2016
Innisfil Journal	October 27, 2016
Bradford West Gwillimbury Times	October 27, 2016
Bradford West Gwillimbury Topic	October 27, 2016
East Gwillimbury Express/Newmarket Era	October 27, 2016
The Auroran	October 27, 2016
Markham Economist and Sun	October 27, 2016
King Weekly Sentinel	October 27, 2016
King Connection	October 27, 2016
Vaughan Citizen	October 27, 2016
Thornhill/Richmond Hill Liberal	October 27, 2016
Brampton Guardian	October 27, 2016
Mississauga News	October 27, 2016
Oakville Beaver	October 27, 2016
Scarborough Mirror	October 27, 2016
Etobicoke Guardian (Mimico)	October 27, 2016
City Centre Mirror	October 27, 2016
King Weekly Sentinel	October 27, 2016
East York/Riverdale/Beaches Mirror	October 27, 2016

Publication	Date Published
North York Mirror	October 27, 2016
York Guardian	October 27, 2016
Parkdale Villager	October 27, 2016
Toronto Star and Toronto Star online	October 27, 2016
Innisfil Examiner	October 28, 2016
Burlington Post	October 28, 2016
Oshawa Durham Central	October 24, 2016
French Publications	
L'Express	November 1, 2016
Le Metropolitain	November 2, 2016

In addition, a French and English version of this advertisement were made available, as per the requirements described in Section 1.1.2.5, on the Metrolinx Electrification website. Copies of the English and French Newspaper Ads are included in **Appendix L-2**.

1.2.2.2.2 Public Meetings Overview and Locations

The intent of the Round 2 Pre-Planning Phase public meetings was to: provide an overview of the TPAP, update project timelines, progress of the EA studies, and electrification infrastructure requirements; address any preliminary comments; and obtain feedback that could be used to improve project implementation. These public meetings provided additional focused content on noise/vibration impacts and mitigation as well as tree/vegetation removal. The Pre-Planning Phase public meetings were held in November 2016 to allow for more detailed EA and design information to be confirmed and developed prior to the next round of Pre-Planning Phase Public Meetings.

Thirteen (13) public open houses were held at various locations throughout the network between November 7 and November 29, 2016. The format of the public meeting included a short presentation, a working session on noise, as well as one on trees, roll plans detailing locations of noise mitigation to be considered, as well as display boards detailing general electrification information.

Locations for public meetings were chosen at locations across the network (minimum of one meeting for each corridor) to provide opportunity for individuals across a wide geographic area to participate in the meetings. All 13 public meeting venues were accessible, a short presentation was held, and the public was provided the opportunity to view display boards on select topics.

In some locations these meeting were held jointly with the Barrie Rail Corridor Expansion TPAP project team and the Lakeshore East – Don River Scarborough Expansion TPAP project team.

Table 1-6 below provides a summary of when and where the public meetings took place. Copies of the newspaper advertisements for the second round of public meetings are included in **Appendix L-2**, and copies of the public meeting notifications are in **Appendix L-3**.

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



Table 1-6: Public Meeting Round Two Locations & Dates

Meeting #	Date	Time	Location	Address
1	November 7, 2016	6:30-9 pm	Hope United Church	2550 Danforth Ave, Toronto ON
2	November 9, 2016	6:30-9 pm	Metro Toronto Convention Centre (South Building)	Room 717A and 718, 222 Bremner Blvd Toronto, ON
3	November 14, 2016	6:30-9 pm	Bramalea Secondary School	510 Balmoral Dr. Brampton ON
4	November 15	6:30-9 pm	Loretto College School	151 Rosemount Ave, Toronto, ON
5	November 16, 2016	6:30-9 pm	Riverdale Collegiate Institute	1094 Gerrard St. E. Toronto, ON
6	November 17, 2016	6:30-9 pm	Birchmount Park Collegiate Institute	3663 Danforth Ave. Scarborough, ON
7	November 17, 2016	6:30-9 pm	Cornell Community Centre	3201 Burr Oak Ave. Markham, ON
8	November 21, 2016	6:30-9 pm	Innisdale Secondary School	95 Little Ave, Barrie, ON
9	November 22, 2016	6:30-9 pm	Sacred Heart Catholic High School	908 Lemar Rd. Newmarket, ON
10	November 23, 2016	6:30-9 pm	Cardinal Carter Catholic High School	210 Bloomington Rd. Aurora, ON
11	November 24, 2016	6:30-9 pm	Vellore Village Community Centre	1 Villa Royale Ave, Woodbridge, ON
12	November 28, 2016	6:30-9 pm	Jean Vanier Catholic Secondary School	959 Midland Ave. Scarborough, ON
13	November 29, 2016	6:30-9 pm	First United Church	151 Lakeshore Road West, Mississauga, ON

The meetings provided the public an opportunity to review display boards and meet with staff one on one to discuss the project. The display boards were posted and staffed for the duration of the event. Comment sheets (see **Appendix L-5**) were provided to all attendees as a mechanism for submitting comments and feedback on the project and a summary report was prepared to document the sessions (see **Appendix L-5**). This report outlined how stakeholders were engaged prior to and during meetings, how and what content was presented, meeting attendance, and the types of feedback that were received.

Display boards were presented covering the following content:

- A. Background Information;
- B. Scope of GO Rail Network Electrification;
- C. Benefits of Electrification;
- D. Scope of EA Studies;
- E. GO Network Electrification Infrastructure Requirements;
- F. Overview of Tap Locations (Hydro One);
- G. Locations of TPS/SWS/PS Facilities;
- H. Bridge Modifications;
- I. Noise and Vibration Mitigation;
- J. Tree/Vegetation Removal Requirements
- K. Visual/Aesthetic Impacts;
- L. EMI/EMF Impacts;
- M. Timelines/Next Steps.

Printed copies of the panels were made available to meeting attendees upon request and were made available online at the Electrification website and Metrolinx Engage. A copy of the Public Meeting Display Panels is provided in **Appendix L-5**.

1.2.2.2.3 Information Sheets

Comprehensive information sheets were prepared and provided to all participants who attended the public meetings. These information sheets consisted of information regarding:

- Tree/Vegetation Removal Impacts and Mitigation
- Noise Impacts and Considerations for Mitigation
- Vibration Impacts and Considerations for Mitigation
- Visual/Aesthetics Draft Mitigation Approach

A copy of the Information sheets is provided in **Appendix L-5**.

In addition to the information sheets, participants were provided with an agenda outlining the meeting proceedings and a comment form. A copy of the agenda and comment form is provided in **Appendix L-5**.

1.2.2.2.4 Tree Workshop Component

A workshop to discuss potential tree removal impacts and draft mitigation strategies was held offering participants a chance to learn more about the process being followed to develop a standard Metrolinx Protocol as well as opportunities to provide feedback regarding compensation measures.

Figure 3: November 9, 2016, Public Meeting in Toronto



Figure 4: November 24, 2016, Public Meeting in Vaughan



1.2.2.2.5 Noise/Vibration Workshop Component

A workshop was held offering participants a chance to discuss and learn more about potential noise and vibration impacts as well as draft mitigation strategies being considered by Metrolinx. Some of the discussion topics included:

- Sources of noise;
- Areas that will experience an increase of 5 dB (or greater) noise;
- Current regulations regarding noise and mitigation required;
- What Metrolinx is currently doing to mitigate noise;
- Key challenges being explored related to noise; and
- Next steps in the process and questions.

1.2.2.2.6 Roll Plans

Conceptual roll plans were developed and displayed at each public meeting session providing mapping of each corridor to be electrified, Traction Power Facility sites, OCS Impact Zones, Vegetation/Tree Removal Zones, Noise Mitigation Locations for Consideration, and Vibration Mitigation Locations for Consideration.

1.2.2.2.7 Summary of Public Comments Received

Prior to and during the Consultation Round 2 (October/November 2016 – June 14, 2017), comments were received via a variety of communication channels: phone calls, e-mails, letters, comment forms, and via the Public Meeting interactive Noise and Tree workshops. When a comment was provided via phone call, the comment was logged and a response was later provided via email or call back.

The comment period for the Round 2 Pre-Planning Phase public meetings was between October 24th and December 14th. A total of 1 phone call and 59 emails and letters were received through the Electrification e-mail during the Round 2 comment period.

A total of 23 comment forms were submitted as part of the Round 2 Pre-Planning Phase Public Meetings. When a meeting attendee had a verbal comment, staff provided them with a comment form and encouraged them to write down their comments so that it could be formally addressed. Copies of the completed comment forms are included in **Appendix L-5**.

In addition Public Meeting attendees were given the chance to ask questions to the Project Team during the interactive Noise and Tree workshops. Each comment or question that was posed by an attendee was documented and Metrolinx responses were summarized in the Public Meeting Summary Reports (one for each meeting). Copies of these Public Meeting Summaries are included in **Appendix L-5** of the Final Draft EPR.

Some of the feedback received was related to topics that were outside the scope of the Electrification Project, many of which were more related to track expansion work defined under Metrolinx's RER Program, new GO stations, and increased service levels. Generally speaking, the key themes of the comments/feedback received included, but were not limited to the topics listed below. These have been categorized into "Related to Electrification TPAP Scope" and "Other Comments".

Related to Electrification TPAP Scope

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Noise and vibration impacts and mitigation measures;
- Tree and vegetation removal impacts and compensation;
- Effect on adjacent properties and corresponding property values;
- Property encroachment and expropriation;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);
- Overhead contact system vs. third rail;
- Additional venue considerations/locations for next round of public meetings;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks; and,
- General support for electrification.

Other Comments

- Locations for track expansion on Lakeshore East Corridor;
- Locations for track expansion on Lakeshore West Corridor;
- Locations for track expansion on Barrie Corridor;
- Locations for track expansion on Stouffville Corridor

- Comments about ongoing Metrolinx construction projects;
- Noise and vibration levels associated with existing service;
- Increased service (number of trains) along rail corridors;
- Timing of implementing increased service along rail corridors;
- Inquiries about noise and vibration mitigation (i.e. barriers) for increased service levels.
- Concerns related to noise from increased train service and whistling;
- When/where new GO station will be implemented;
- Work on at grade road-rail crossings; and
- General transit improvements (GO Bus, Smart Track, TTC, VIA etc.)

Overall, positive feedback for the Electrification Project was expressed by the public, with a general consensus that transitioning from a diesel operated fleet to one that operates on electricity will be an improvement. Concerns tended to be expressed regarding site-specific impacts from project implementation, most commonly relating to how the project will impact residents' quality of life through changes to views/aesthetics, noise and vibration, or property values. Concerns were also raised with regards to tree/vegetation compensation measures, specifically concerned with ensuring that appropriate measures are taken to compensate for tree/vegetation removal requirements. As part of the TPAP, Metrolinx completed detailed visual, noise/vibration and other impact assessments to address these and other issues. In addition Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Regional Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol (see Volume 5 for further information on the Vegetation Compensation Protocol). The results of these studies were discussed during the Round 3 TPAP phase public meetings and the draft studies were made available for review on the project website (Section 1.3.1.4).

Figure 6: November 23, 2016, Public Meeting in Aurora



Figure 5: November 17, 2016, Public Meeting in Markham



Figure 7: November 21, 2016, Public Meeting in Barrie



Figure 8: November 28, 2016, Public Meeting in Scarborough



Table 1-7 summarizes the key issues/comments/questions related to electrification that were raised by members of the public as part of the Round 2 Pre-TPAP consultation, and how they were considered by Metrolinx. Copies of all public comments received can be found in **Appendix L-7**.

Media Requests

On April 3, 2017 a media request was received from a journalist at CBC requesting to speak to Metrolinx about the GO Transit RER project along the Kitchener corridor as it relates to Electrification. A phone interview was conducted on April 4, 2017. Topics of discussion included the scope of the Electrification project along the Kitchener corridor, Electrification infrastructure requirements along the Kitchener corridor, and public meetings held along the Kitchener corridor.

Table 1-7: Summary of Pre-Planning Phase Public Comments Received (October/November 2016 – Notice of Commencement (June 14 2017))

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
EA Process, Project Scope, Environmental Questions/Comments				
1	Via Email	EA Process	The majority of countries use overhead power for trains and have done for many years, why are we wasting money on more studies?	You are correct. Overhead electrified power is a proven technology and used around the world to power commuter rail services. We certainly aren’t wasting time and money to complete the current electrification TPAP. In comparison to Europe and Asia, North America does not have a well-established electrified network of commuter rail services. The ongoing electrification TPAP is required to assess any environmental impacts and propose mitigation to ensure that the planned electrification infrastructure does not unduly impact the surrounding environment.
2	Via Email	Project Scope	What is the project scope?	As part of Regional Express Rail, Metrolinx is proposing to electrify GO-owned corridors. The GO Rail Network Electrification undertaking will entail design and implementation of a traction power supply system and power distribution components including: an Overhead Contact System (OCS) along the rail corridors, electrical feeder routes, and a number of traction power facilities located within the vicinity of the rail corridors. The scope of the Project involves electrification of the following GO Transit rail corridors: <ol style="list-style-type: none">1. Union Station Rail Corridor – From UP Express Union Station to Don Yard Layover2. Lakeshore West Corridor – From just west of Bathurst St (Mile 1.20) to Burlington3. Kitchener Corridor – From UP Express Spur (at Highway 427) to Bramalea4. Barrie Corridor – From Parkdale Junction (off Kitchener Corridor) to Allandale GO Station5. Stouffville Corridor – From Scarborough Junction (off Lakeshore East Corridor) to Lincolnville GO Station6. Lakeshore East Corridor – From Don Yard Layover to Oshawa GO Station
3	Via Email	Project Cost	What is the cost of the project?	The estimated capital cost of electrification is \$2.6 billion, for the construction, adjustments to bridges, and other equipment required, as outlined in the GO RER Initial Business Case Summary (2015).
4	Via Email	Construction/Implementation Timeline	Why is Willowbrook testing necessary for UP Express electrification?	In order to electrify the entire network, we need a test track to work out any kinks before we begin installing electrification infrastructure across the GO network including the UP Express service. This will be built around the Willowbrook area to stable and maintain any test vehicles at our Willowbrook facility.
5	Via Email	Construction/Implementation Timeline	What is the expected lag time between increased service, the opening of a station [Bloor/Lansdowne], and the rollout of electrified service on the Barrie line? To reduce impacts to air quality ideally, the station would not open until electrified service is in place.	Metrolinx is currently working on the GO Rail Network Electrification TPAP. We need to complete this assessment, followed by detailed design. The Barrie Rail Corridor Expansion TPAP must also be completed to allow for planned track expansion before we can begin installing the electrification infrastructure. Construction within the corridor is planned to begin as early as 2018. The plan is to complete the electrification of the portions of the GO network identified in the TPAP by 2025. At this point in time, the construction phasing has not been finalized and the exact time frame for electrified service on the Barrie line is not yet confirmed. Please visit metrolinx.com/RERBarrie to stay up to date on the Barrie Rail Corridor Expansion TPAP and gotransit.com/electrification to stay up to date on the Electrification TPAP. A new GO rail station was identified on the Barrie corridor, immediately south of Bloor in the June 28 meeting of the Metrolinx Board of Directors. The station location and general arrangement was approved by Toronto City Council, and was included in the 10-year RER program at the December meeting of the Metrolinx Board. The station itself is subject to further environmental assessment, and a separate TPAP. Construction timing for the station has not been finalized, but we are working towards 2025.
6	Via Email	Construction/Implementation Timeline	Will protecting for future electrification on segments of a line that is not ready for electrification include work to ensure signaling and communications are protected?	Protecting for future electrification includes incorporating electrification design standards and electrification vertical and horizontal clearance requirements for new and existing structures, enabling works for new track infrastructure including new stations, bridges or third party developers wishing to cross over the corridor.
7	Via Email	EA Process	Why does the project not fall under the GO Transit Class Environmental Assessment 2003?	On January 23, 2015 the Ministry of the Environment and Climate Change (MOECC) posted a proposal to amend regulations made under the Environmental Assessment Act (EAA) to clarify that the TPAP described in Ontario Regulation 231/08 - Transit Projects and Metrolinx Undertakings (O. Reg. 231/08) can apply to the planning of all applicable aspects of a commuter rail electrification project. A decision was made to implement the regulatory amendments. The amendments to O. Reg. 231/08 and Ontario Regulation 116/01 - Electricity Projects (O. Reg. 116/01), were filed with the Registrar of Regulations on April 7, 2015 and came into effect on July 1, 2015. The regulatory amendments allow proponents of certain power supply infrastructure projects to follow the TPAP rather than the Class EA.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				Although separate from the GO Transit Class EA process, public consultation is still a cornerstone of the TPAP to provide an opportunity for members of the public to review and share their feedback. We have not triggered the Notice of Commencement for these projects and we will continue to engage with stakeholders and members of the public throughout the TPAP.
8	Via Email	EA Timeline	What is the current timeline for the electrification program including TPAP, design and construction start and projected completion and operation? Is the timeline of electrification tied to RER implementation on the routes deemed optimal to electrify? What are the optimal routes?	Our second round of public meetings occurred in November for the GO Network-wide Electrification Transit Project Assessment Process (TPAP). The Notice of Commencement is expected late winter. We expect to issue the Statement of Completion in the Fall of 2017. Procurement for design and construction is planned for 2018. The plan is to complete the electrification identified in the TPAP of the GO network by 2025. We need to complete a lot of the planned track expansion and other civil work before we can ramp up the installation of the electrification infrastructure. As we want to electrify the GO network as soon as possible, we are moving ahead with electrifying the sections of track that Metrolinx owns as part of the 10-year Regional Express Rail program. We will continue to work with CN and CP to develop a plan to electrify the remaining sections of corridor.
9	Via Email	EA Timeline	What is the current schedule for the electrification project? Is electrification being considered in the rail corridor expansion projects? Which corridors will be electrified first?	The schedule presented back in early 2016 was based on early assumptions and a desire to complete the GO Network Electrification Transit Project Assessment Process as soon as possible. However, during early engagement with communities, a number of concerns were raised, such as the location of traction power facilities in some areas, that we committed to working through these with residents and so extending the time for public engagement across the GO network. The Electrification team is working hand-in-hand with all the GO service expansion teams to ensure that electrification infrastructure requirements are built into the ongoing rail corridor expansions. Even though some projects are already under construction, they have made provisions for the future electrification infrastructure as much as possible. A test track will be built in the Willowbrook maintenance facility area in order to analyze an electrified section of the corridor under normal operation parameters in order to assess performance and interface with other relative infrastructure systems. Work will continue to establish a roll-out plan to electrify the rail corridors across the network as the project moves in to the design and procurement stage. Metrolinx is working to clarify the sequencing of rail corridors to be electrified through this process. There are many factors that will determine the order of electrification.
10	Via Email	EA Timeline	A letter from the Clean Trains Coalition claims that the EA process for electrification is late. Is that the case? Has Metrolinx responded to this letter?	Work has been ongoing to complete environmental studies for the entire rail network for over a year. The schedule presented back in early 2016 was based on early assumptions and a desire to complete the GO Network-wide Electrification Transit Project Assessment Process as soon as possible. However, during early engagement with communities, a number of concerns were raised, such as the location of traction power facilities in some areas, that we committed to working through these with residents and so extended the time for public engagement across the GO network. The larger Regional Express Rail program is on schedule and we will continue the conversation with stakeholder and communities with another round of public engagements this November and in early 2017. Given the large scope of this project, it's important that we continue to listen to the many voices across the region to help make this project the best it can be. We have responded to the Clean Train Coalition.
11	Via Email	EA Timeline	Where do things stand on the GO network-wide Electrification Transit Project Assessment Process (TPAP)?. The website states that the "six-month TPAP process" would begin in "late Winter 2017". Now that it is the first day of spring 2017, could you let me know if this TPAP has started or is about to start?	We are working towards beginning the formal Transit Project Assessment Process. We continue to complete our due diligence with regulatory agencies. As you can imagine, with a network-wide TPAP, this is taking a bit longer than we expected. Stay tuned for the timing of the TPAP Notice of Commencement.
12	Via Email	EA Timeline	When will tendering and construction start on GO Electrification?	We need to complete the Transit Project Assessment Process before procuring the work and beginning construction. We plan to begin construction in 2020. The plan is to complete the electrification of the portions of the GO network identified in the TPAP by 2025. At this point in time, the construction phasing has not been finalized and the exact time frame for electrified service on each of the rail lines is not yet confirmed

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
13	Via Email	Project Update	Can Metrolinx to put together a newsletter like the one for the Eglinton cross town project?	Thanks for the suggestion to create a newsletter for this project. We will certainly review this once we move into construction to keep everyone up to date on the progress of electrifying the GO network.
14	Via Email	Electrification Benefits and Impacts	How is the EA documentation providing existing residents with the quality of life that they had before GO and Metrolinx came into existence?	Passenger rail has an important role in providing sustainable transportation systems and improving our communities' quality of life by providing more environmentally friendly modes of transportation. Although people living near a railway should expect to see and hear a certain amount of activity from rail operations, unlike highways, roads, and air traffic, the railway is a relatively quiet place. Metrolinx is dedicated to being a good neighbour and to operating in such a way as to avoid negative environmental, health, safety, and economic impacts. We are committed to providing a safe, reliable, efficient and convenient public transportation service to the regions we serve. Metrolinx complies with all relevant safety acts, regulations, guidelines and industry best practices, including the Railway Safety Act (RSA), Transport Canada. The various technical studies completed in support of the Transit Project Assessment Process (TPAP) are based on gap analysis, baseline studies, and review of existing data (such as historical EAs) and will determine any impacts to the environment and neighbouring communities, and mitigation measures for those impacts identified.
15	Via Email	Electrification Benefits and Impacts	<p>Old Riverdale is a neighborhood located along the Lakeshore East Corridor of your GO Transit system that has been identified as a sensitive receptor in planning for the development of the GO-RER initiative.</p> <p>We have tried for some time now to learn how we might send a delegation of our residents to present in person our assessment of the future impacts of the GO-RER project on our neighbourhood. We would also want to talk about our requests for mitigation of these impacts and how we see them aligning with Metrolinx's recently published commitments and promises for a Community Charter.</p> <p>We are most interested to hear the corporation's response to our proposal of collaboration in using Old Riverdale to develop and model a world class solution for the integration of rapid transit and the communities it services.</p> <p>As a direct response to our query on this matter has not been forthcoming, we are now sending you a formal submission as an attachment to this email. The submission is supported by signatures of over 300 Old Riverdale residents. We offer this in the hope of finding an avenue to open up some form of broader and more meaningful dialogue with the Corporation.</p> <p>We also propose to submit a formal deputation on this subject to the upcoming, June 28th, 2017, meeting of the Metrolinx Board of Directors.</p> <p>If you wish to learn more about our thinking on GO-RER over the past year, much of it can be found at https://oldriverdale.wordpress.com.</p>	<p>Thank you for your detailed email, ongoing patience, and your interest in collaboration. We would like to meet with you before the June board meeting and are proposing Monday, May 29, 6:30pm, 20 Bay Street, 6th floor Executive Boardroom.</p> <p>Both myself and my colleague, Gerry Chaput, Acting Chief Capital Officer look forward to a productive conversation with you at this meeting and we look forward to reviewing your thorough submission. I will ask that members of my Community Relations team will join us as well to support our discussion.</p> <p>You have also asked to make a formal presentation to our Board of Directors. I wanted to let you know that the Metrolinx Board only accepts written deputations and not in-person presentations as referenced here: http://www.metrolinx.com/en/aboutus/board/board_meetings.aspx. We can work together to ensure that your materials are submitted and provided to the Board.</p> <p>I am pleased to read the reference to our new Community Charter. We would like to continue working with you, and as you mentioned, strive for a world class solution where communities and transit expansion projects are in alignment.</p>
16	Metrolinx Engage	Electrification Benefits and Impacts	What are the impacts to the West Toronto Railpath?	The West Toronto Rail Path was assessed within the Land Use and Socio-economic Impact Assessment report as part of this TPAP (Appendix E2 of the EPR). There are no anticipated adverse effects on recreational amenities due to the implementation of electrification infrastructure identified as part of the conceptual design developed for this TPAP. Notwithstanding this, potential conflicts with recreational amenities will be reviewed in further detail during the Detailed Design phase, and if required the City of Toronto will be consulted to determine appropriate design solutions to mitigate/minimize any effects to recreational amenities.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
17	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Will the Noise and Vibration report clearly indicate and provide a differential analysis, showing current measurements of noise and vibration (based on current frequency and train type) and what the future increase there will be based on schedule and new train type?	<p>The Noise and Vibration report will clearly indicate current and future noise and vibration levels. The Noise and Vibration Impact Assessment as part of the GO Rail Network Electrification TPAP assessed how noise and vibration levels will change as a result of the conversion of GO Transit’s current service levels to the future increased service levels of the electric powered Regional Express Rail (RER) service. As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, noise impacts from the future GO Transit rail traffic were expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels. The pre-project noise levels were taken to be the existing noise levels, associated with present-day rail traffic on the corridor.</p> <p>Noise increases above 5 dBA trigger the MOEE/GO Transit Protocol for Noise and Vibration Assessment to consider noise mitigation. Mitigation must be considered if the project is expected to cause a 5dB increase or greater in the average noise (referred to as “Leq”) relative to the existing noise level or the MOEE objectives of 55 dBA for daytime and 50 dBA for night-time. The conceptual electrification roll plans which identify areas for proposed noise mitigation are currently available on the gotransit.com/electrification.</p> <p>This TPAP process will identify areas where noise mitigation will be considered as well as options for mitigating noise. The next steps that Metrolinx will follow in identifying what type of noise mitigation will be implemented and where, includes further analysis of the noise mitigation options during detailed design to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility as per the Protocol.</p>
18	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Concern that if there is nothing done to reduce the exposure of vibration and noise to home that it will become unlivable. Request for the information from the noise and vibration assessment.	<p>We certainly understand your concern with increased noise and vibration from GO service expansion. Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol.</p> <p>Noise increases above 5 dBA trigger the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. The Noise and Vibration Impact Assessment is a preliminary evaluation that will be refined during detailed design; it is not intended to assess noise impacts at individual addresses. The exact location and length of the noise mitigation has not been determined. This will be reviewed further during detailed design to identify the exact length of the noise mitigation.</p> <p>Vibration will be further reviewed during detailed design. The results presented thus far are preliminary and are subject to change as we further refine our work.</p>
19	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	From my understanding Metrolinx has used Cadna/A to calculate noise impacts. Cadna/A uses virtual receptors to calculate the difference in noise. Will the exact readings from the virtual receptors created by Cadna/A be provided as part of the final EA?	<p>The GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol does identify the use of the Sound from Trains Environmental Analysis Method (STEAM) model for predicting rail traffic noise levels. However, we decided to get a more accurate picture of the noise impacts from increasing service by using the American Federal Transit Administration Federal Noise and Vibration Impact Assessment model which uses Cadna/A. Cadna/A provides a more detailed analysis by incorporating things such as curves, and parallel and intervening tracks which are not easily assessed using the STEAM model. This model is the most current one available for modelling the impacts of noise increases.</p> <p>For a noise and vibration impact assessment, representative receptors are selected to assess predicted increase in exposure resulting from the increase in train service.</p> <p>At your location, the predicted noise increase is just below the threshold of 5 dB. It is important to keep in mind that this is a preliminary evaluation that will be refined during detailed design; it is not intended to assess noise impacts at individual addresses. The exact location and length of the noise mitigation in your area has yet to be finalized.</p> <p>The draft noise and vibration assessment will be released as part of the environmental project report. We are in the process of having regulatory agencies (including MOECC) review all of the environmental studies. Once this review is completed, we will release all environmental studies publicly.</p>
20	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Does the sound modeling include future sound barriers that are part of the project? Sound mitigation was called for on the opposite side of the tracks from my residence, if placed it	<p>The noise assessment does investigate future noise mitigation in its modelling. For preliminary modelling, the Cadna/A model identifies areas where noise increases by 5 dBA or more above existing conditions. The model then looks at the impact of an assumed 5m high absorptive noise barrier to determine whether the noise can be reduced by at least 5</p>

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			would cause noise to be sent back in my direction causing a larger increase in noise. The Cadna/A model uses the placement of soundwalls to ensure they can reduce the noise by 5db but there is no mention of altering the model to include reflective noise.	dBa. During detailed design, the preliminary evaluation will be refined. We will investigate using absorptive material for any required noise walls to reduce the effect of noise bounce back. The noise assessment assumes an absorptive noise wall in its calculations for the noise level with a noise wall in place. The noise profile would be different with a reflective noise wall. This is a preliminary evaluation that will be refined during detailed design. The exact location and length of the noise mitigation has not been determined. This will be reviewed further during detailed design to identify the exact length of the noise mitigation will be in your area.
21	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Concern about selection of receptor locations in noise and vibration impact assessment. Nowhere in the protocol does it say you can pick and choose what receptors are used for what sensitive land use, if you want to do sampling instead of measuring all sensitive receptors surely the worst case scenario must be applied. Also in regard to the sound barrier, during my research I have yet to find a case where Metrolinx has used a sound barrier that doesn't reflect noise more recent projects like the UP corridor and the Stouffville corridor expansion, which is directly related to the this EA, have used reflective sound barriers. I would believe that the worst case scenario would have to apply here and sound modeling would have to include reflective sound if it can have a negative effect on other sensitive receptors.	A meeting with Metrolinx was held to discuss concerns as they relate to the noise and vibration modelling. Metrolinx used absorptive noise walls for the most part on the GTS Project on the Kitchener line. The clear transparent panels are the only walls that are reflective. This was a choice made by the community to maintain the view corridor across the rail corridor.
22	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	What is the height of the night time receptor for the address near Wildwood Crescent What are the noise values currently and projected? Was an appropriate receptor height used relative to the terrain?	Modelled sound levels for the closest receptor location near Wildwood Crescent were provided.
23	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Concern that the closest noise and vibration receptors to respondent's home are not good representations of the noise levels at the home. Inquiry regarding assessment's compliance with the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol's guide for points of reception (day time and nighttime). Request for home to be assessed or added as a noise mitigation zone before detailed design. Inquiry as to whether the noise and vibration impact assessment used the Sound from Trains Environmental Analysis Method (STEAM). Request for the calculations used in the analysis to determine the sound levels near respondent's home and to determine the need for mitigation measures.	The GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol (see attached) does identify the use of the Sound from Trains Environmental Analysis Method (STEAM) model for predicting rail traffic noise levels. However, we augmented this model by using the American Federal Transit Administration Federal Noise and Vibration Impact Assessment model which uses Cadna/A. Cadna/A provides a more detailed analysis by incorporating things such as curves, parallel and intervening tracks which is not easily assessed using the STEAM model. In order words, it is a more accurate picture of the noise impacts from increasing service. This model is the most current available for modelling the impacts of noise increases. You will be able to review the entire noise and vibration assessment once it is released in the coming months. It is currently being reviewed by the MOECC.
24	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Does the Noise and Vibration study take into consideration the train model that will be used then the track is electrified and for the continued use of the current trains until the rails are electrified? If the specific specifications regarding the train have not been finalized, how can the Noise and Vibration study be finalized, as the type of train will likely need to be taken into consideration to yield the appropriate information regarding impacts?	The vehicle used for modelling in the reports was comparable to the type of electric locomotive that will likely be procured. In addition, our consultants did a considerable amount of research which determined that the difference in locomotive weight between diesel and electric is not significant enough to have an impact on the vibration levels.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
25	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Have there been any decisions on foliage planting and or fence building for noise reduction along the section of track immediately north of Wellington Street and north of Centre Street along the Barrie Corridor? When might work occur?	<p>Metrolinx did complete a preliminary noise and vibration assessment for your area. At your location, it shows that there is an increase in noise above 5 dB which triggers the need to investigate for noise mitigation as per the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol. Potential solutions for non-technically feasible noise walls will be explored during the detail design stage.</p> <p>Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the GO Transit/MOECC Noise Protocol.</p> <p>With regards to timing of construction, we do not have a construction staging plan as we do not have a contractor on board yet. We are in the process of completing the environmental assessment to add a second track to the GO Barrie rail corridor. The earliest any work would begin to add a second track would be in spring 2018.</p>
26	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Request that noise from train whistling in Newmarket at road-rail crossings be assessed as part of the TPAP. The whole process involving Noise Pollution Protocols within the EA is flawed. Noise monitoring has taken readings when the EA started and interpreted them as background instead of using levels when GO-Metrolinx started to run the passenger service or before. The timing of Day, 7 in the morning to 11 at night and Night, from 11 at night to 7 in the morning is a misnomer as the trains start at 5:30 am. The construction industry and municipal noise By-Laws consider nighttime as 11 to 7 in the morning and decibels are limited, why are the GO trains not limited to starting the whistles to at least 7 am? Which towns/cities along the Toronto - Barrie Rail Corridor currently have a Train Whistle By-Law in place?	<p>Metrolinx is working with Transport Canada to review existing road-rail crossings standards to see if new technologies can help to reduce the noise caused by the road-rail crossing systems.</p> <p>Train whistles are a requirement under the Railway Safety Act which is administered and regulated by Transport Canada. Metrolinx must adhere to all Transport Canada regulations. Special instructions may be issued to exempt the use of the whistle at specific crossings provided that certain conditions are met. This process is initiated by the local municipality by applying to Transport Canada to have train whistling removed at road-rail crossings in their municipality.</p> <p>As part of the GO Rail Network Electrification TPAP, various technical studies were completed in order to determine potential impacts and mitigation measures. These studies included detailed noise and vibration reports, which indicate areas which will experience an increase of 5dB or greater in noise levels; thus triggering the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. Please note that this modelling includes train whistles and horns – if the speed is greater than 70 km/h, the whistle starts to blow 400 metres before the crossing and ends at the crossing; otherwise the whistle is blown for 20 seconds before arriving at the crossing. In these areas, mitigation measures such as noise barriers will be examined.</p> <p>With regards to the report for the Electrification EA, a noise receptor was located in proximity to your residence. The receptor was located 30m from the Barrie Rail Corridor. At this receptor, results from the noise report concluded that there was an increase of 5dB or greater at nighttime. However, it was found that noise barriers at this receptor location were not technically feasible, as they would not result in an effective decrease in noise levels. This is a preliminary evaluation that will be refined during detailed design. It is not intended to assess noise impacts at individual addresses. The exact location and length of the noise mitigation has not been determined and will be reviewed further during detailed design. We will keep you updated throughout the process.</p> <p>At Metrolinx, safety is our number one priority, and bells and whistles play an important role in keeping people out of harm's way.</p> <p>Metrolinx is required to follow specific safety rules set by the federal government, through Transport Canada, for sounding bells and whistles. Bells and whistles are used in different ways for different situations and the unnecessary use of them is not permitted.</p> <p>The following municipalities have implemented anti-whistling measures:</p> <ul style="list-style-type: none">• City of Toronto• City of Barrie (Minet's Point Road, Little Avenue)• City of Barrie (Mapleview Drive East)• Town of Newmarket (Davis Drive, Water Street - between 2200 – 600 hours) <p>Several municipalities, including the Town of Innisfil, Town of Bradford West Gwillimbury, and the Town of Aurora are in the process of submitting train whistling exemption applications.</p> <p>You can find further information at: https://www.tc.gc.ca/eng/railsafety/menu.htm</p> <p>At Metrolinx, we adhere to all federal and provincial requirements. Train whistling at road-rail crossings is a requirement as per Transport Canada. We understand your concerns about our early trains, however, we must adhere to federal regulations to ensure safety.</p>

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				Metrolinx is following regulatory requirements that are considered best practice. There is an existing Transport Canada process in place for municipalities that wish to eliminate whistling at public crossings and a number of safety measures must be in place. Metrolinx is committed to working with municipalities and Transport Canada to ensure the right measures are in place to keep people and communities safe.
27	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	The Newmarket By-Law Number 837 - Order No. 64180 - November 1943 is not being adhered to by Metrolinx.	A Town of Newmarket staff report to Newmarket Council dated January 8, 2015 discusses By-law 837. It states that Transport Canada provided guidance to the Town of Newmarket that this by-law is not enforceable given the transfer in ownership from CN Rail to Metrolinx and now falls under provincial jurisdiction. Metrolinx will continue to work with the Town of Newmarket to review present and future service levels to determine the potential for whistle exemptions.
28	December 14, 2016 Community Meeting MPP Wong	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Will electrified trains change the noise from trains breaking?	Electrified trains may not change the noise emitted from the application of brakes. Depending on the rolling stock for electrified service, the use of Electric Multiple Units (EMUs where each car is equipped with its own electric engine versus an train that has one car equipped with an electric engine to pull the rest), may be one solution for mitigating noise caused from braking.
29	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	We live right down from the Allandale -GO-Station, are there any noise barriers or vibration reductions planned for this area.	No noise mitigation is currently proposed at Allandale GO for Electrification.
30	Via Email / Round 2 PICs (Scarborough/Markham)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Suggest communicating noise impacts for Electrification as "before" and "after" measurements for the UP Express project. Would be beneficial to present noise impacts by providing dBA information of properly functioning train, subway train, light rail train, bus, one cargo train vs. two cargo trains etc.	Thanks for your feedback on how to improve how we present noise information.
31	Via Email	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Concerned with increased train traffic and with horn blowing noise at the Aurora Station crossing. Can you please circulate the Noise and Vibration Impact Assessment Report for review? Does this assessment include noise generated from the horn?	At present, the noise and vibration report is still being completed. We anticipate releasing it, along with all the other environmental reports, in mid-2017. The modelling did take into account the train whistling.
32	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Would like to see use of more than one type of vibration mitigation. For example: floating slab, rubber rail isolation and berms.	Vibration mitigation solutions can but are not limited to ballast mats, under sleeper pads or resilient fixation. In addition, the following mitigation measure will be adhered to: Ballast mats, under sleeper pads or resilient fixation should be investigated during Detailed Design for receptors 40-75 metres in distance to proposed new switches or other special trackwork, or 18 metre, 20-25 metre distance to proposed new tracks.
33	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Make noise walls visually interesting by growing vines/with plants, night time illumination, sculptures, etc. It would be useful to change the look of the walls in different areas so passengers can easily tell where they are along the line.	Acknowledged. The design of potential noise walls will be determined during detailed design.
34	Round 2 PICs (Scarborough / Mississauga) / Metrolinx Engage	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Further involve the community in detailed design on future noise mitigation discussions, on actual projected noise reduction and on the location of noise walls i.e. through open houses, community meetings, web discussions, email notifications, posting of information on noise mitigation research and options online etc. The topic of noise associated with electrification should be discussed on television and share the broadcast online.	Metrolinx will continue to engage the public on proposed noise mitigation solutions once detailed design has progressed and updated analysis results are available.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			Provide notice when draft results of areas recommended for mitigation have been identified, allow residents an opportunity to review the recommended noise mitigations. Send out notices to those living along the tracks of any future meetings regarding noise mitigation. Provide a direct phone line for residents to have their questions answered.	
35	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Locations of sound walls should be identified to community, look of sound wall to be reviewed/approved by community.	This TPAP identifies areas where noise mitigation will be considered as well as options for mitigating noise. The next steps that Metrolinx will follow in identifying what type of noise mitigation will be implemented and where, includes further analysis of the noise mitigation options during detailed design to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility as per the MOEE/GO Transit Protocol for Vibration Assessment. Alongside those considerations, Metrolinx will continue to engage the public on proposed noise mitigation solutions once detailed design has progressed and updated analysis results are available. To see where noise and vibration mitigation measures are proposed, please visit http://www.gotransit.com/electrification/ and examine the roll plan for your corridor.
36	Round 2 PICs (Barrie)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Test noise mitigation from inside resident’s houses.	Noise impacts are discussed within the Noise and Vibration Impact Assessment as part of the TPAP. The MOEE/GO Protocol for Noise and Vibration Assessment utilizes the concept of daytime and nighttime receptors. Daytime receptors are to be in the front yard or backyard of a residential property, whichever is most exposed to the noise source and Nighttime at the plane of the bedroom window that is most exposed to the noise source. In the present case, residences are mainly located in an urban area where front and backyards have small surface areas. Therefore, the daytime and nighttime receptors were collocated at a single horizontal position, at the most exposed façade of the dwelling. Daytime sound levels were assessed at a height of 1.5 m above local grade. Nighttime sound levels were assessed at the bedroom window height, assumed to be 4.5 m above ground (i.e., the second storey bedroom window).
37	Round 2 PICs (Toronto) / Metrolinx Engage	Electrification Benefits and Impacts – Noise and Vibration Mitigation	If the average noise increase anticipated is more than 5dB please ensure that noise mitigation minimizes more than 5dB if technically possible. Provide vibration mitigation measures to the west of Leslie Street. My house shakes every time a train passes by, request that noise and vibration mitigation be further investigated along the Lakeshore East corridor roll plan figure LSE-5.	The Noise and Vibration Impact Assessment as part of the GO Rail Network Electrification TPAP assessed how noise and vibration levels will change as a result of the conversion of GO Transit’s current service levels to the future increased service levels of the electric powered Regional Express Rail (RER) service. As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, noise impacts from the future GO Transit rail traffic were expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels. Noise above 5 dB which triggers the need to investigate for noise mitigation as per the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol. Technically feasible refers to locations where a 5 metre noise wall would be able to generate 5 dB of noise reduction. Locations where noise mitigation is recommended were identified as part of the TPAP. Please refer to the Noise and Vibration Modelling Reports available on the project website: http://www.gotransit.com/electrification/en/ Locations where vibration mitigation is recommended were identified as part of the TPAP. Please refer to the Noise and Vibration Modelling Reports available on the project website: http://www.gotransit.com/electrification/en/ Preferred vibration mitigation and exact locations of mitigation measures will be further reviewed during detailed design.
38	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Request that houses too high to be served by a noise wall in the Old Riverdale area be soundproofed through installation of triple-glass windows on upper levels and insertion of thick attic insulation etc.	The Noise and Vibration Assessment reviews the impact of increased rail service and identifies mitigation based on the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol. The most common type of noise mitigation is a noise wall. Metrolinx is reviewing different options to mitigate noise at the source to help reduce the noise as much as possible. This includes investigating measures such as rail dampeners and resilient wheels.
39	Round 2 PICs (Barrie)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Do noise walls trap snow?	Yes, it is possible that noise barriers may trap snow.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
40	Round 2 PICs (Mississauga)	Electrification Benefits and Impacts – Noise and Vibration Mitigation	I recommend that Metrolinx undertake research into noise abatement techniques employed in other electrified mass transit solutions and to make these findings public so that property developers and homeowners may benefit from this research. This research should also be shared with those responsible for the Ontario Building Code and the Canadian Building Code for their consideration as to whether any updates should be included regarding new building construction or existing building modifications adjacent to the proposed electrified rail corridors.	Developers are required to complete a noise and vibration assessment within 300 metres of a rail corridor and to install noise and vibration mitigation where identified. Metrolinx provides developers with current and planned train service levels for noise and vibration assessment.
41	Metrolinx Engage	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Noise walls need to be built with height to shield residents at Agincourt GO station since many backyards are below track level.	The Noise and Vibration Assessment reviews the impact of increased rail service and identifies mitigation based on the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol. The most common type of noise mitigation is a noise wall. There are technical and property considerations with building a noise wall above 5 metres. That is why noise walls are usually 5 metres high. Depending on the soil conditions, walls above 5 metres require lateral support to stabilize the wall. This additional support requires additional property which is in short supply in many areas along the rail corridor. Metrolinx is reviewing different options to mitigate noise at the source to help reduce the noise as much as possible. This includes investigating measures such as rail dampeners and resilient wheels.
42	Metrolinx Engage	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Noise traveling up-river from the Credit River bridge concerns me. There is a heritage bridge and a new bridge added for the third track. Can some retro fit work be done on the new bridge to reduce noise impact of trains crossing the river? Since the new bridge is north of the heritage structure, any sound barrier on the up-river side would be effective in minimizing noise issues radiating from both structures for the residents of Mississauga Road and Stavebank Road.	Bridges with an open deck are noisier than those with solid decks. The Credit River Bridge is a Provincially Significant Heritage Structure; as such as Heritage Impact Assessment was completed as part of the TPAP to assess the potential effects of electrification and outline a mitigation strategy. Please note the addition of track on the bridge is not part of the Electrification project scope.
43	Metrolinx Engage	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Noise of trains crossing the bridge over Etobicoke Creek is a concern. What mitigation can be taken to reduce noise of trains over the bridge?	RWDI modelled the noise of trains passing over the bridge at nearby sensitive receptors. The adjusted noise impact of the Electric RER in comparison to the existing service was less than 5 dB and therefore did not warrant mitigation investigation.
44	Via Email	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Would like additional information on the trimming of vegetation related to proposed electrification on the lakeshore west corridor where train tracks are close to residential streets and ravine areas in the Lorne Park residential area of Mississauga.	Respondent was provided tree/vegetation impact zone mapping for the Lorne Park area, indicating that most of the impact is within the rail corridor property line. A copy of the tree/vegetation information sheets distributed during the second round of public meetings was also provided.
45	Via Email	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Is the 7 meter clearance of trees a total or 7 meters on either side of the tracks?	It is 7 metres out from the centre of the outermost track, on either side.
46	Round 2 PICs (Barrie)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Would like to see noise mitigation that incorporates vegetation (trees, shrubs) and that brings additional benefits such as mental health, minimizing heat island effect, minimize local flooding, minimize visual impact of the project etc.	A vegetation clearing zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on either side of each rail corridor. New trees/shrubs cannot be planted within the established vegetation clearing zone. Vegetation does not reduce noise enough to meet noise mitigation requirements. In addition, trees as noise barriers are not very effective because there are too many gaps to block the sound. Other benefits of vegetation will be considered in vegetation compensation plans.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
47	Round 2 PICs (Aurora)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	I would never let someone remove a mature tree from my property, paying me or giving me some sort of community benefit doesn't cut it.	Metrolinx would initiate the conversation with property owners affected by tree removal due to electrification infrastructure. Tree removal would follow a permitting process and all property owners would be notified in advance of the need to remove any trees or vegetation on their property. We do not yet have the exact design for the electrification project outlined, so we are not able to contact property owners about specific trees.
48	Metrolinx Engage/ Round 2 PICs (Mississauga)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Costs associated with tree removals should be covered by Metrolinx. Replace any cleared trees on private property or provide financial compensation. Should financial compensation be provided to residents for tree removal, ensure the compensation is provided prior to removal of the trees. Residents need the opportunity to arrange for tree replacement. Provide property owners with recommendations to ensure the success of any new plantings. Will residents be provided a discount if they choose to replant more mature trees?	
49	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Ensure thorough planning and consultation with property owners occurs before trees are removed from private property. The timelines of tree removal should be communicated to the affected residents.	
50	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Where requested, Metrolinx should replace trees on private property from the rail side.	
51	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Avoid removal of trees and greenspace where possible.	The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final Overhead Contact System design.
52	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Plant new trees as soon as possible as mature trees take long to grow.	Metrolinx is in the process of developing a Tree/Vegetation Compensation Protocol, in consultation with affected municipalities and Conservation Authorities. Following the TPAP, Metrolinx will finalize this protocol for implementation during the detailed design and construction phases. The overarching goal will be to develop a compensation strategy that can be applied system-wide to all Metrolinx projects. Ecosystem benefits, visual mitigation, and strategic tree planting for public realm benefits will be considered as part of the Tree/Vegeation Compensation Protocol.
53	Metrolinx Engage/ Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Replant with native trees to assure diversity.	
54	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Replant with evergreen bushes/shrubs on the north side of the noise wall along the rail corridor in the Old Riverdale area where there is not enough room to replace with trees.	
55	Round 2 PICs (Toronto)/ Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Consider compensating for lost trees by planting trees within local community parks, parkettes, arboretums, downtown area, hospitals etc. and underutilized spaces within communities to make areas more attractive.	
56	Metrolinx Engage	Electrification Benefits and Impacts – Natural	An independent biologist should determine appropriate compensation for trees lost from a watershed.	

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
		Environment/Tree and Vegetation Compensation	Replanting should be strategic within watersheds to neutralize the impacts of vegetation removal as much as possible.	
57	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Financial compensation for tree removal could be provided to management of the Oak Ridges Moraine.	
58	Round 2 PICs (Markham)/ Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Replace cleared trees with trees of the same quality, i.e. age of the tree, equivalent CO2 absorption rate etc. Mature trees should be replaced by mature trees to provide noise mitigation and visual barriers.	
59	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Replant trees based on the calculated basal area on impacted properties.	
60	Metrolinx Engage	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	A high ratio of trees planted for every tree removed should be used as not all trees make it to maturity.	
61	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Have discussions with the communities on tree compensation i.e. the types of trees that will be planted.	Metrolinx is establishing a Vegetation Compensation Protocol to responsibly replace any trees or vegetation that needs to be removed. Metrolinx is looking to partner with Conservation Authorities and municipalities to develop the final compensation protocol.
62	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Natural Environment/Tree and Vegetation Compensation	Will Metrolinx mark the trees that are to be removed and allow for community feedback?	Metrolinx is establishing a Vegetation Compensation Protocol to responsibly replace any trees or vegetation that needs to be removed. Metrolinx is looking to partner with Conservation Authorities and municipalities to develop the final compensation protocol.
63	Via Email	Electrification Benefits and Impacts - Power Supply	What is the energy consumption of the trains?	Once we have determined the train type and specifications, we will have a better idea of the energy consumption of the fleet.
64	Via Email	Electrification Benefits and Impacts – Power Supply	We are paying neighboring Provinces and States to take our energy. Diesel electric was proven in the late 50's, we not only have hydro produced from water and nuclear, and we now have high temp incineration of garbage that is producing electricity. Paying high prices for solar and wind, then paying others to take it is foolish, use the hydro we are paying others to take.	With regards to electricity supply, we are working very closely with Hydro One, who is a co-proponent with Metrolinx for the TPAP. Metrolinx is working with Hydro One to ensure that the addition of an electrified GO service does not impact the electricity supply/demand balance for Ontario's electricity system.
65	Via Email	Elec Impacts and Benefits - Property Impacts	Will there be encroachment on my property? Will you be expropriating properties?	There are no plans to add additional tracks in your area and the installation of the electrification infrastructure to electrify the GO service can be accommodated within the existing property boundary. We are still finalizing the requirements for electrification but we do not anticipate we will need additional property. We will notify you if things change. For more information on what we are doing in your area, please visit metrolinx.com . You can also use our map to see what is happening in your neighbourhood.
66	Via Email	Elec Impacts and Benefits - Property Impacts	When will there be interviews for home owners directly affected in the area of the Allandale Tap/TPS?	We invite residents and members of the community to attend our public meetings to learn more about our projects, and encourage them to share their comments, questions and concerns with us to be documented as part of the final Environmental Project Report. We do not interview individual residents, but are happy to speak with you further to address your concerns.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
67	Round 2 PICs (Mississauga)	Elec Impacts and Benefits - Property Impacts	How will residents be compensated from vibration damage to their homes?	Repeated vibration can create fatigue on infrastructure, however the guidance provided by authorities says that vibration, regardless of how often it occurs, has to reach a certain magnitude before it damages any property. To see where vibration mitigation measures are proposed, please visit http://www.gotransit.com/electrification and examine the roll plan for your corridor.
68	Metrolinx Engage	Electrification Benefits and Impacts – Property Values	Agincourt heritage homes are being devalued due to train noise.	It is difficult to speculate on the impacts to property values. In general, there is evidence to show that when homes are located close to transit, the close proximity can have a positive impact on property value. However, each property is different. There are other factors that can determine property value. For example, the economy and housing markets, changing characteristics of the area, manufacturing demand, local employment, etc.
69	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Visual	Request placement of catenary support bridges or portals opposite laneway ends in Old Riverdale instead of at the ends of the streets. Visibility of electrification infrastructure at the ends of the streets in Old Riverdale would constitute intrusive visual pollution and is likely to have a dramatic negative effect on house prices in the area. Request that tall, artist-created artificial trees be placed along the north side of the rail corridor in the Old Riverdale area to replace trees that must be cut down and to reduce visual pollution from the OCS.	There will be visual effects of varying degrees due to the implementation of the Overhead Contact System (OCS), i.e. poles, wires along the rail corridors. Visual impacts were assessed as part of the TPAP and documented in the Visual Impact Assessment Report (Appendix H2 of the EPR). The OCS support structures will be positioned along the track at a maximum spacing of approximately 65m. The OCS design including placement of support structures will be finalized during the detailed design phase. The installation of OCS infrastructure will affect the viewshed along the rail corridors, particularly in areas of vegetation/tree clearing. Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact (as defined in Appendix H2) will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
70	Round 2 PICs (Toronto)	Electrification Benefits and Impacts – Construction	Why is there no discussion about the impact on the community caused by construction? What are the construction schedules? Are there penalties for damage/delays?	Construction impacts as a result of project activities were assessed as part of the TPAP. Impacts on the communities’ are addressed through the various technical studies conducted as part of the TPAP. Noise and Vibration, Air Quality, Visual, and the Land Use and Socio-economic studies all help to indicate these impacts and potential mitigation measures. Traffic, parking, transit, cycling and pedestrian management strategies will be implemented in coordination with Municipalities, as appropriate to avoid/minimize construction interference to the extent possible. Construction within the corridor is planned to begin as early as 2018. The plan is to complete the electrification of the portions of the GO network identified in the TPAP by 2025. At this point in time, the construction phasing has not been finalized.
71	Round 2 PICs (Toronto)	EA Process – Consultation	A construction liaison committee (CLC) should be established to operate from early planning through to completion of the project. Construction schedules along with contact information for ombudsman should be posted locally.	A construction phasing strategy has yet to be finalized and the timeframe for beginning construction along each corridor is unavailable at this time. This information will be made publically available when it has received final confirmation and approval. A dedicated Community Relations staff member will be available to oversee and respond to any concerns throughout the duration of construction.
72	Via Email	Health & Safety	Where in the EA documentation is medical and public health hazards addressed?	Impacts on public health and quality of life are addressed through the various technical studies that are conducted as part of the EA. Noise and Vibration, Electromagnetic Interference / Electromagnetic Field, Air Quality, and Land Use and Socio-economic studies all help to indicate these impacts, and potential mitigation measures.
73	Via Email	PIC Materials	I missed the Public Meeting. Are there minutes or a presentation file that you could sent out to me?	All of the meeting material is posted at metrolinxengage.com . Simply click on the meeting to review the materials and share your thoughts.
74	Via Email	PIC Materials	Will the metrolinxengage.com site be updated with the current presentations, handouts, etc.?	All of the materials from each public meeting have been posted at metrolinxengage.com for folks to review and share their thoughts. https://www.metrolinxengage.com/en/engagement-initiatives/regional-open-houses-november-2016
75	Via Email	PIC Materials	Noted satisfaction with the format and materials presented at the PIC meeting on November 9, 2016.	We’re glad that you found our meeting format useful.
76	Round 2 PICs (Aurora)	PIC Notifications	Suggest that public meetings be advertised on GO trains	Acknowledged.
77	Round 2 PICs (Toronto)	EA Process – Consultation	Provide project documentation in other languages.	Metrolinx will do its best to provide materials in other languages, when requested.
78	Via Email	PIC Venue Selection	Why are there no meetings in Durham Region?	Metrolinx hosted two public meetings earlier this year in Durham region during the first round of public engagement across the region – one in the Town of Whitby on February 25th and the other in the City of Pickering on March 10th. We are trying to host meetings in other areas that we couldn’t get to in the first round to ensure that we have a chance to

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				meet with as many people as possible face to face. Not to worry if there wasn't a public meeting nearby, all of the meeting material is being posted at metrolinxengage.com where you will have the opportunity to have your say.
79	Via Email	PIC Venue Selection	Why are there no meetings in Oakville? Is the Oakville GO station not the busiest station outside of Union?	Metrolinx hosted a public meeting earlier this year in the Town of Oakville on February 29th during the first round of public engagement across the region. We tried to host meetings in other areas that we couldn't get to in the first round to ensure that we have a chance to meet with as many people as possible face to face. Not to worry if there wasn't a public meeting nearby, all of the meeting material is being posted at metrolinxengage.com where you will have the opportunity to have your say.
80	Via Email	PIC Venue Selection	The recent notice for TPAP Public Meetings in November on electrification does not mentioned the Stouffville line. If the corridor is still be electrified why was it omitted from the TPAP meetings?	The upcoming November public meetings are an opportunity to discuss key transit projects and get feedback from the community. One key project is the GO Rail Network Electrification Transit Project Assessment Process (TPAP). This includes electrifying the Stouffville rail corridor to get more people moving across the City of Toronto and the region. We are also discussing two other TPAPs: the Barrie Rail Corridor Expansion TPAP and the Lakeshore East – Don River to Scarborough Expansion TPAP. We hosted two public meetings on the Stouffville rail line in the previous round of public meeting this past winter. And this time we are hosting two more along the line at: Monday, November 28, 2016 Jean Vanier Catholic Secondary School 959 Midland Ave. Scarborough, ON AND Thursday, November 17, 2016 Cornell Community Centre 3201 Bur Oak Ave. Markham, ON
81	Via Phone Call	PIC Venue Selection	Why are there no meetings in Burlington	During the first round of public engagement earlier this year, Metrolinx hosted a public meeting in the City of Burlington on March 8. We are trying to host meetings in other areas that we couldn't get to in the first round to ensure that we have a chance to meet with as many people as possible face to face. Not to worry if there isn't a public meeting nearby, all of the meeting material is posted at metrolinxengage.com where you will have the opportunity to have your say.
82	Via Email	PIC Venues/Selection	The meetings do not seem to include the west end of Toronto.	During the first round of public meetings in February/March of this year, we hosted meetings in the west of the Greater Toronto and Hamilton Area including Etobicoke on March 9. We do have a meeting in the St. Clair and Dufferin area which is in the west end of the City of Toronto for this round of public engagement. We are trying to host meetings in other areas that we couldn't get to in the first round to ensure that we have a chance to meet with as many people as possible face to face. Not to worry if there isn't a public meeting nearby, all of the meeting material is being posted at metrolinxengage.com where you will have the opportunity to have your say.
83	Via Phone Call/Voicemail	PIC Venues/Selection	Why are there no public meetings in Hamilton?	There are no planned meetings in Hamilton for electrification because at this time, Metrolinx is only proposing to electrify Metrolinx-owned rail corridors. The portion of the Lakeshore West Corridor west of Burlington is owned by CN. Further discussions with CN are required before electrified service beyond Burlington can be implemented. It is not anticipated that these issues will be resolved within the timeframe of the GO Rail Network Electrification TPAP.
84	Via Email	Project Scope – Kitchener Corridor	Given the June 2016 announcement of the Agreement in Principal with CN Rail, has any consideration or discussions occurred on extending the TPAP boundary for the Kitchener Corridor west from Bramalea?	The agreement in principal with CN is to examine the feasibility of construction of the 407 freight bypass. If the freight bypass was to proceed there are still several steps that need to take place, including an environmental assessment process for the bypass. Metrolinx is also currently examining the requirements for environmental assessment for the improvements on the corridor including electrification from Bramalea to Kitchener. Since the Bypass and the improvements from Bramalea to Kitchener are still dependent on a larger agreement with CN it was felt that it was best to continue with the Electrification TPAP as originally planned for the improvements to Bramalea.

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
85	Via Email	Project Scope – Lakeshore West Corridor	I’m interested in potentially living in a house that is very close to the Clarkson Go Station. Will there be power stations, power lines or grids near the Clarkson GO station?	We are currently completing an environmental assessment (Transit Project Assessment Process) to evaluate the impacts from this new infrastructure which includes installing overhead contact system with wires to power the electric trains. The distribution system will also include: traction power facilities located in proximity to the rail corridors, gantry structures which provide power to the OCS, and 25kV feeder routes for power distribution. There are no traction power facilities proposed near Clarkson GO station. Construction within the Lakeshore West corridor to electrify the network is planned to begin as early as 2018. The plan is to complete the electrification of the portions of the GO network identified in the TPAP by 2025. At this point in time, the construction phasing has not been finalized and the exact time frame for electrified service on the Lakeshore West line is not yet confirmed.
86	Via Email	Request for Project Update	Request for update on Electrification project.	We are in the process of hosting public meetings to get feedback from the community and stakeholders. All of the material presented during the second round of public meetings will be posted at metrolinxengage.com where you can share your thoughts.
87	Via Email	Project Materials	Please provide me with a copy of the Electrification TPAP reports when they are available.	The GO Rail Network Electrification draft Environmental Project Report will be made available at gotransit.com/electrification later this year for public review which will include all of the environmental and technical studies, including the Noise and Vibration Assessment Report.
Infrastructure, Operations and Maintenance, Rolling Stock and other Question/Comments				
88	Via Email	Contract/Tendering	Is the project going to be advertising work vacancies?	All employment opportunities are posted at metrolinx.com. We encourage checking this site frequently as new positions are posted on a regular basis.
89	Via Email	Contract/Tendering	Would like information on procurement type, advertised date and bid date.	At this time we cannot provided answers to your questions regarding RFQ dates, construction schedules, or contract types, as this would contravene procurement confidentiality.
90	Via Email	Contract/Tendering	Request for market sounding packages prepared in connection with the electrification project.	With respect to your inquiry for the market sounding materials available for the Regional Rail Express program, please find attached 4 documents we have previously provided to the market.
91	Via Email	Elec Infrastructure - General	Why isn’t Metrolinx replacing the existing tracks with electrified tracks, as in the UK?	We did review several different types of propulsion technologies as part of the 2010 Electrification Study. The Study considered the economic, social, environmental, health, and technological factors for current and future diesel and electric technologies. The primary reason why an Overhead Contact System (OCS) is preferred over a Third Rail system (method whereby a conductor is placed alongside or between the rails of a railway track) is due to safety. Third rail has more safety risks associated with potential pedestrian contact with electrified infrastructure, particularly for a largely open corridor such as the GO Transit Network. Metrolinx operates through open areas and a third rail system requires a completely secure area. An electrified third rail would present a serious safety risk to people and animals who might inadvertently cross or touch the track. We are not replacing our tracks. We are adding tracks across the network to help deliver the transformational GO service expansion to deliver an electrified, 15 minute service or better service across most of the network.
92	Via Email	Electrification Infrastructure Siting – TPFs	Where is the Allandale Traction Power Facility to be located?	The Allandale TPS/Tap will be located on a parcel of land situated at the northwest corner of Patterson Road and the Barrie-Collingwood Rail corridor in Barrie, just west of Highway 400. From there a feeder route will run along the Barrie-Collingwood Railway corridor east to Allandale Waterfront GO Station. There will not be any power facilities at the waterfront.
93	Via Email	Project Design	What are Metrolinx’s thoughts on developments with HVDC? Apparently, the new technology produces less of an electromagnetic field as compared to AC. Why did Metrolinx choose AC for its network electrification?	With regards to your question regarding High Voltage Direct Current, as with any advances in technology, Metrolinx will monitor them to see if they become viable in the future. At this time, Metrolinx is seeking environmental assessment approval to electrify the core areas of the GO network using a traction power distribution system and we have not assessed the impacts/benefits of an HVDC system. The electrified GO Transit Network will be a 2 x 25 kV AC (alternating current) autotransformer fed electrification system which will be connected directly to a high voltage system. The Traction Power Substations (TPS) will transform the utility supply voltage of 230 kV to 2 x 25 kV for distribution to the electric trains via the Overhead Contact System (OCS). The decision to implement an AC system was initially established through the 2010 GO Transit Electrification Study (Metrolinx, 2010) which can be accessed online at the following link: 2010 GO Transit Electrification Study .

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>The power supply technology assessment conducted in the 2010 GO Transit Electrification Study entailed identifying a broad range of existing and future potential electrification system technologies that could be used to provide power to the future GO Transit rail services. The electrification system technologies considered included the following:</p> <ul style="list-style-type: none">• DC (direct current) electrification systems,• AC electrification systems at commercial frequency,• AC electrification systems at non-commercial frequency,• Combination of AC and DC electrification systems, and• Alternative system technologies and enhancements, including:• Wayside energy storage, and• Wayside hydrogen fuel cell power generation. <p>In addition to comparing the technical attributes of these technologies, the study involved the application of five screening criteria as follows to identify a “short list” of technologies for further assessment:</p> <ul style="list-style-type: none">• Is the technology proven?• Is the technology technically viable?• Is the technology commercially viable?• Is the technology compatible with the Reference Case infrastructure?• Is the technology compatible with the Reference Case service levels? <p>Following examination and screening of the various technologies, a number of these were eliminated from further consideration. Further, it was determined that the following technologies satisfied the evaluation criteria to the highest degree, and therefore would be carried forward for more detailed assessment and analysis as part of the Electrification Study:</p> <ul style="list-style-type: none">• Direct-fed system operating at 1x25 kV AC electrification voltage and commercial frequency of 60 Hz;• Autotransformer-fed system operating at 2x25 kV AC electrification voltage and commercial frequency of 60 Hz; and• Direct-fed system operating at 1x50 kV AC electrification voltage and commercial frequency of 60 Hz. <p>During the further evaluation it became apparent that several bridges along the route have limited vertical clearance. Since the 1x50 kV electrification system requires higher vertical clearance above the rail than the 2x25 kV system, more bridges would have to be modified should the 50 kV system be implemented. This would be uneconomical due to requirements for frequent track lowering or bridge raising.</p> <p>Also, advantages of the 2x25 kv autotransformer-fed system over the 1x25 kv direct-fed system include greater substation spacing. Therefore, the technology selected and recommended for the GO Transit system electrification was:</p> <ul style="list-style-type: none">• Autotransformer-fed system operating at 2x25 kV AC electrification voltage and commercial frequency of 60 Hz
94	Via Email	Project Design - Bridge Modifications	Would it not be easier, less expensive and better visually simply to build a "roof" over the wires about 5- 10 metres on either side of the overpass, rather than bridge barriers?	<p>This was looked at but was deemed not to be the preferred option due to the associated impacts on safety, operations and maintenance of the electrification system and supporting structure. Public and operational safety is of the upmost importance. It is a requirement of electrification to protect both train operations and the public by providing adequate separation between accessible surfaces and energized parts. Currently, horizontal offset and bridge barriers are being proposed to protect pedestrians from accidental direct contact with adjacent live parts of the electrification infrastructure. A horizontal barrier is required where structures run parallel to the electrification system.</p> <p>Bridge barriers were assessed as part of the Visual Impact Assessment Report prepared as part of the GO Rail Network Electrification TPAP. A design excellence process will review options for design treatments/options for enhancing the aesthetics of bridge barriers and maintaining existing views where possible.</p>
95	Via Email	Project Design – Bridge Modifications	There is a pedestrian overpass just south of Lawrence Ave. If it needs to be rebuilt, it would be nice if the various departments worked together and perhaps moved this a little north so that the bicycle path along the Hydro corridor could access it easier than currently.	<p>This pedestrian underpass is not proposed to be rebuilt. Any pedestrian overpasses that may require modifications or need to be rebuilt, will be coordinated with our municipal partners and any other stakeholders as required.</p>

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
96	Via Email	Network Design	Respondent came across electrification handbook and requested a copy.	You may be referencing a previous electrification study that we completed for the UP Express TPAP. We are currently developing the specifications and design for the current electrification project, and more information will become available once the environmental assessment is completed in late 2017. Please visit gotransit.com/electrification to stay up to date on the electrification TPAP progress.
97	Via Email	Project Design - Electric Vehicles	How much of this information will be available as a teaching aid for Electrical Apprentices?	We are more than happy to discuss with you how we can share information to enhance your classes and engage your students. All of the meeting material is posted online at metrolinxengage.com . In addition, the Environmental Project Report for the project will be made available online for public review which will include all of our environmental and technical studies.
98	Via Email	Relation to Other Projects (SmartTrack, VIA etc)	Will electrification happen before SmartTrack is implemented? Will VIA trains be electrified as well?	City of Toronto's SmartTrack plan builds on Metrolinx's plans to electrify and expand GO service to 15 minutes or better in core areas. So, yes, SmartTrack will be an electrified rail service. The VIA rail service will continue to be a diesel service.
99	Via Email	Rolling Stock	What is the current status on vehicle procurement? What are the types of vehicles under study? What is the schedule for purchasing and replacing the vehicles?	We are currently reviewing the fleet strategy to determine the type(s) of vehicles we will procure. This work is looking at vehicle types from self-propelled electric multiple units (EMUs) to electric locomotives to a combination of both. We have not decided on any particular vehicle as of yet.
100	Via Email	Rolling Stock	The railfan in me hopes it's a combination of vehicles because that makes life more interesting. The other hope I have is that some of the EMUs/new coaches would be "name" in addition to just having numbers (IE the MP-40-3Cs are in the 600s). There's a long tradition of rail company's naming their fleets.	We appreciate your interest in the project. Please do not hesitate to contact us if you have any further questions.
101	Via Email/ Round 2 PICs (Barrie)	Rolling Stock	What model of train will be used? What is the energy consumption of each train? The electric trains should have no locomotive all carriages should be powered.	Metrolinx is currently in the process of determining what type of electric train fleet will be used. There are two styles of electric trains under consideration. Electric Locomotive and dual level Electric Multiple Units (EMUs).
102	Via Email	Rolling Stock	Metrolinx should be investigating use of compressed or liquid hydrogen, PEM fuel cells and nickel-metal-hydride batteries for powering GO trains instead of building overhead electrical structures and replacing numerous bridges and overpasses.	As part of the 2010 Metrolinx Electrification Study, one of several alternatives for train propulsion we looked at was Alternative System Technologies: trains that are powered using hydrogen fuel cell technology or from batteries that store energy. The conclusion of the assessment, which looked at technical, commercial and compatibility criteria, is that the power supply option most appropriate for the GO Transit rail network and the Union Pearson Express is the use of an overhead catenary system. We will continue to monitor the developments of advances in new rail propulsion technology as they become more viable systems in the future. At this stage, they do not meet our current network requirements.
103	Via Email	Rolling Stock	Have the tenders been let for purchase of EMU's for UP Express? I am informed that DMU's are not convertible to electric. Is the time to purchase new rolling stock longer than the time needed to string wires?	We are currently reviewing the fleet maintenance for the new rolling stock including UP Express. The original UP Electrification EA identified an inline maintenance facility for UP. Now that we are looking at network-wide electrification, we are looking at maintenance requirements across the entire network. Once we have determined the specifications for the new fleet rolling stock, it will be procured. It is possible to convert DMUs to EMUs, however the conversion of DMUs is a business decision and it will be reviewed in the context of the electrified network. The lead time to purchase new rolling stock is not necessarily longer than the time needed to string wires as it will depend on the vehicle chosen. For instance if it was added to someone's existing order it could be fairly readily available.
104	Round 2 PICs (Toronto)	Elec Infrastructure Siting - TPFs	Minor concern about the location of the paralleling station at the Don River - currently shown at the centre of what is being proposed as a major transit interchange station, spanning the Don River and much of the northern edge of the Unilever/First Gulf/East Harbour site. The passenger station proposal is a real stunner with strong support within the local community. I'm told that the paralleling station would not preclude a passenger station at the same site, but want to be sure that First Gulf is	A compressive assessment was undertaken as part of the TPAP to identify feasible siting options for the Tap/Traction Power Facilities that involved a two-step process of 1) identifying possible sites (see criteria below, and 2) assessing the sites to determine the recommended locations (see criteria below). Criteria for identifying Possible /Viable TPF Sites: 1. Is the site situated in the vicinity of Hydro One's 115kV/230kV high voltage lines?

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx																						
			aware of the proposed paralleling station site. Why wouldn't it be on the west side of the river, south side of the rail corridor, in what will eventually be underused land between the railway and the newly reconstructed Gardiner Expressway.	<div><div><div>a. To ensure sufficient power load and to maintain high reliability of the power supply, Traction Power Substations should be located as close as possible to existing Hydro One transformer stations and to the rail corridor.</div><div>b. Siting Traction Power Substations as close as possible to existing Hydro One transformer stations will help limit the cost of high voltage transmission lines or cables required for connection.</div></div><div>2. Is the site situated in the vicinity of the GO rail corridor?<div>c. To ensure sufficient power load and to maintain high reliability (as noted above).</div></div><div>3. Does the site satisfy minimum size requirements for a TPS?<div>d. The site needs to be of sufficient size to accommodate the electrical equipment.</div></div><div>4. Consideration of track geometry<div>e. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</div></div><div>5. Locations of phase breaks<div>f. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</div></div><div>6. Proximity to GO stations<div>g. Because there is a temporary loss of power to the train consist while traversing a phase break, they need to be spaced sufficiently away from train stations and other locations where the trains make stops. The train consist requires a certain level of speed and momentum to “coast” through the phase break.</div></div></div> <div>Assessment Criteria for Identifying Recommended TPF Sites:</div> <table><tr><th>EVALUATION CRITERIA</th><th>DESCRIPTION</th></tr><tr><td colspan="2">Environmental</td></tr><tr><td>Natural Environmental Considerations</td><td>Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).</td></tr><tr><td>Cultural Heritage Considerations</td><td>Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i>, as defined in O. Reg. 231/08.</td></tr><tr><td colspan="2">Land Use & Socio-Economic</td></tr><tr><td>Land Use/Socio-Economic Considerations</td><td>Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.</td></tr><tr><td>Development Applications</td><td>Consideration of active development applications on the site.</td></tr><tr><td>Property Ownership</td><td>Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.</td></tr><tr><td colspan="2">Technical</td></tr><tr><td>Property shape/configuration</td><td>Consideration of the site shape/configuration. Square/rectangular sites are preferred over irregularly shaped sites in order to provide the most ideal space for the configuration of the electrical equipment on the site.</td></tr><tr><td>Access for Construction, Maintenance and Emergency Vehicles</td><td>Consideration of the accessibility of the site in relation to construction, maintenance and emergency services.</td></tr></table>	EVALUATION CRITERIA	DESCRIPTION	Environmental		Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).	Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.	Land Use & Socio-Economic		Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.	Development Applications	Consideration of active development applications on the site.	Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.	Technical		Property shape/configuration	Consideration of the site shape/configuration. Square/rectangular sites are preferred over irregularly shaped sites in order to provide the most ideal space for the configuration of the electrical equipment on the site.	Access for Construction, Maintenance and Emergency Vehicles	Consideration of the accessibility of the site in relation to construction, maintenance and emergency services.
EVALUATION CRITERIA	DESCRIPTION																									
Environmental																										
Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).																									
Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.																									
Land Use & Socio-Economic																										
Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.																									
Development Applications	Consideration of active development applications on the site.																									
Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.																									
Technical																										
Property shape/configuration	Consideration of the site shape/configuration. Square/rectangular sites are preferred over irregularly shaped sites in order to provide the most ideal space for the configuration of the electrical equipment on the site.																									
Access for Construction, Maintenance and Emergency Vehicles	Consideration of the accessibility of the site in relation to construction, maintenance and emergency services.																									

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx	
				Type/length of high voltage connection	
					Shorter, aerial high voltage connection routes are preferred over longer, underground cable connections which are far more costly.
				The location as shown at 35 Sunlight Park Road, Toronto (just east of the Gardiner Expressway) was deemed to be preferred based on the assessment undertaken. In addition, as part of the consultation efforts, Metrolinx met with First Gulf to discuss the location of the proposed Don Yard paralleling station at the Don River. Further coordination with affected stakeholders, including First Gulf Cooperation, will be undertaken as appropriate during detailed design with respect to the Don Yard PS location. In recognition that there are several future land developments proposed in the vicinity of the Don Yard PS, e.g., Unilever Site, Metrolinx’s preferred design will include some form of visual screening at this facility due to the nature of the surrounding scenic environment and its proximity these future/proposed land uses. Coordination and consultation with the City of Toronto, Waterfront Toronto, Toronto and Region Conservation Authority, and other interested/affected stakeholders will be carried out as part of detailed design to determine the final design of the Don Yard PS facility in relation to the following proposed developments in the vicinity of the PS site: <ul style="list-style-type: none">• Gardiner Expressway East Realignment;• Don Mouth naturalization and Port Land Flood Protection Project (DMNP);• The Unilever Site (First Gulf);• New SmartTrack/Relief Line station; and,• Broadview Ave. Extension Project.	
105	Metrolinx Engage	Electrification Benefits and Impacts - Electrification Infrastructure	What are the proposed impacts to the Wallace Bridge? The Wallace Bridge was saved by the community in the 1990’s because it was one of the last direct links to the communities past. Its historical designation signifies the fact that it is one of the last remaining bridges of its kind in Canada. Metrolinx will be severely limited in what they can do to this structure and will face a major community backlash if the appearance of this bridge is ruined. There are countless example of thoughtful electrification under historical bridges in Europe. Metrolinx should use google and be have better answers than were given at the most recent meeting.	The Wallace Avenue Pedestrian Bridge was previously studied under the UP Express TPAP. The bridge will require safety barriers and OCS attachments.	
106	Metrolinx Engage	Electrification Benefits and Impacts - Heritage	I have a particular interest in any heritage properties or cultural landscape areas that will be impacted by the Metrolinx improvements. I wish to be sent any results of the Heritage Assessment that will be carried out for this area.	All draft technical reports prepared as part of the GO Rail Network Electrification TPAP including the Cultural Heritage Impact Assessment are available online for public review at www.gotransit.com/electrification .	
107	Metrolinx Engage	PIC Materials/TPAP Materials	I wish to be sent any results of the Heritage Assessment that will be carried out for the Toronto East York area.	All draft technical reports prepared as part of the GO Rail Network Electrification TPAP including the Cultural Heritage Impact Assessment are available online for public review at www.gotransit.com/electrification	
108	Metrolinx Engage	Project Costs	Installation of the necessary infrastructure and the purchase of new locomotives is expensive. What are the cost estimates and how will they be funded? GO Transit currently has an almost new fleet of diesel-electric locomotives that are reasonably fuel-efficient.	The estimated capital cost of electrification is \$2.6 billion, for the construction, adjustments to bridges, and other equipment required, as outlined in the GO RER Initial Business Case Summary (2015). Electrification is being funded through the Province of Ontario’s 10 year Regional Express Rail (RER) plan for transportation infrastructure in the Greater Toronto Hamilton Area (GTHA). To learn more about RER, please visit: http://www.metrolinx.com/en/regionalplanning/rer/	
109	Metrolinx Engage	Rolling Stock	What will happen if a detour is necessary? Diesel-electric locomotives can operate over any standard railway line, electric locomotives do not have this flexibility.	In a rare event that an electric train needs to be detoured onto a non-electrified track, a diesel locomotive will be used.	

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
110	Metrolinx Engage	Electrification Infrastructure	The Tara/Mooregate pedestrian bridge should be replaced by a tunnel under the tracks for easier pedestrian access as opposed to retrofitting the flawed existing bridge to support the catenary.	The initial results of the assessment undertaken as part of the Electrification TPAP for this bridge indicate that the Mooregate Ave/Tara Ave pedestrian bridge, under existing conditions, requires major modification. Although the extent of the modifications cannot be confirmed until further detailed design work is done, the preliminary recommended solution for this bridge is to retain/modify it in order to be code compliant, and incorporate a protection barrier to meet the requirements of the Electrification project.
111	Metrolinx Engage	Project Costs	The financial benefits of the electrification should be presented to allow the public to assess the value of electrification. As there are essentially two alternatives; increasing the number of diesel engines to meet the 15 min schedules or developing the infrastructure for electrification as well as the purchase of a new electric engine fleet. Metrolinx should provide a return on capital for both options. This calculation would include the carbon cost, service benefits, operating and maintenance costs etc.	Please refer to the GO Regional Express Rail Initial Business Case, available at (Section 1.7 in particular) for relevant information on costs, service benefits, etc: http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_EN.pdf
112	Metrolinx Engage	Electrification Benefits and Impacts – Visual	Catenary poles and support beams should be subject to a design competition to brand the GTA RER system. This will make the overhead power system both visually more appealing and attract tourist interest.	There will be visual effects of varying degrees due to the implementation of the Overhead Contact System (OCS), i.e. poles, wires along the rail corridors. Visual impacts were assessed as part of the TPAP and documented in the Visual Impact Assessment Report (Appendix H2 of the EPR). The OCS support structures will be positioned along the track at a maximum spacing of approximately 65m. The OCS design including placement of support structures will be finalized during the detailed design phase. The installation of OCS infrastructure will affect the viewshed along the rail corridors, particularly in areas of vegetation/tree clearing. Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ (as defined in Appendix H2) visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
113	Metrolinx Engage	Electrification Infrastructure	Could the Traction Power Facilities include energy storage capacity in case of an outage to allow trains to travel to the next station? Could the TPFs be expanded for use as extra back-up substations for local utilities? Could renewable energy be generated at the Traction Power Facilities?	The feasibility of using energy storage will be further reviewed during the final design stage. The traction power substations are being designed 2 x 25 kV auto transformer traction power supply, this type of power system is not compatible with residential or commercial power requirements. We assume that you’re inquiring as to whether renewable energy can be used to power the Traction Power Substations/electric trains. This is not a practical solution that would produce enough power for the purposes of powering the trains for the electrified system.
114	Metrolinx Engage	Electrification Infrastructure	Will the Traction Power Facilities be covered to avoid ice build-up and short circuits?	Covering a substation is just one a several solutions to dealing with ice. Which solution will be used will be determined during the final design stage.
115	Electrification Email	Electrification Benefits and Impacts – Economic	Personally I am interested in railroad electrification. I would like to deeply understand, why in US and Canada is not electrification so developed as in Europe. I would like to ask you, if you can provide following price indicators of 2x25 kV system to me: <ul style="list-style-type: none">- Price per kilometer (mile) of installing OCS for single-tracked line. I suggest, it would be approx. half of price for double-tracked line.- Budget for buy and installation of traction substation- Budget for buy and installation of paralleling station- Budget for buy and installation of switching station	We understand that electrified commuter rail is not as widespread in North America as it is in Europe other jurisdictions around the world. However, we are not in a position to explain why. What we do know is that we are moving towards electrifying core areas of the GO network by 2025. With regards to your inquiries about the cost of installation for electrified infrastructure, while we cannot offer any specifics that you have requested, we can provide some insight. First, the cost of single-track OCS in comparison to double tracked corridors is dependent on the OCS configuration, i.e. cantilever or portal. In the first case, there is not a significant cost savings between single and double tracks as all OCS poles are still required. In the second case, the single OCS pole requires a more substantial foundation to resist the induced moment. As such, single-track OCS is closer to 75% of the cost than to 50% of the cost. The estimated capital cost of electrification is \$2.6 billion, for the construction, adjustments to bridges, and other equipment required, as outlined in the GO RER Initial Business Case Summary (2015). For more information on the project, please visit gotransit.com/electrification .

ID	Source	Topic/Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
116	Electrification Email	PIC Venues/Selection	Could you arrange to have a public meeting which would be convenient for people in southeast Scarborough. Either at the Legion on Lawson or Scarborough Village at Markham and Kingston Road	Thank you for contacting us with regard to the upcoming public meetings for the GO Rail Network Electrification Transit Project Assessment Process. Although there are no plans to host a public meeting in Scarborough as part of the upcoming third round of public engagement, please note that Metrolinx hosted two public meetings previously in Scarborough on February 16th, 2016 during the first round of public engagement and on November 28th, 2016 during the second round of public engagement. Not to worry if you cannot attend the meeting. All of the meeting materials will be posted at gotransit.com/electrification .
117	Electrification Email	Project Scope – Lakeshore West Corridor	I’m interested in potentially living in a house that is very close to the Clarkson Go Station. Do you know if there are any construction projects in the next 5 to 15 years near Clarkson GO Station or along the Lakeshore West line? Will there be power stations, power lines or grids near the Clarkson GO station?	Thank you for contacting us with regards to the GO Rail Network Electrification Transit Project Assessment Process (TPAP). In this area, we are planning to upgrade the Clarkson GO station including new elevators, reconstruction of the east pedestrian tunnel, and the addition of a snowmelt system for the platforms. This work is anticipated to be completed for 2020. As well, Metrolinx is planning to electrify the core area of the GO network, including the section of track through the GO Clarkson station. We are currently completing an environmental assessment (Transit Project Assessment Process) to evaluate the impacts from this new infrastructure which includes installing overhead contact system with wires to power the electric trains. To learn more, please visit gotransit.com/electrification . Below are some images to help visualize what the infrastructure will look like. The distribution system will also include: traction power facilities located in proximity to the rail corridors, gantry structures which provide power to the OCS, and 25kV feeder routes for power distribution. There are no traction power facilities proposed near Clarkson GO station. The Notice of Commencement for GO Rail Network Electrification was issued June 14, 2017 which begins the 120-day TPAP; in addition, a third round of public meetings are planned for June/July 2017. A copy of the Notice of Commencement (which includes the public meeting dates/locations) is available at: www.gotransit.com/electrification/en/Electrification_NOC_JUNE142017.pdf Construction within the Lakeshore West corridor to electrify the network is planned to begin as early as 2018. The plan is to complete the electrification of the portions of the GO network identified in the TPAP by 2025. At this point in time, the construction phasing has not been finalized and the exact time frame for electrified service on the Lakeshore West line is not yet confirmed. To stay up to date on what is happening on the Lakeshore West rail corridor, please visit: www.metrolinx.com/en/regionalplanning/rer/rer_lsw.aspx
118	Electrification Email	EA Process	There are a number of case studies around the world that have proven electrification as a success. Why are we going through this lengthy study process?	You are correct. Overhead electrified power is a proven technology and used around the world to power commuter rail services. We certainly aren’t wasting time and money to complete the current electrification TPAP. In comparison to Europe and Asia, North America does not have a well-established electrified network of commuter rail services. The ongoing electrification TPAP is required to assess any environmental impacts and propose mitigation to ensure that the planned electrification infrastructure does not unduly impact the surrounding environment. We are currently completing the TPAP and you can learn more by visiting gotransit.com/electrification .

1.2.2.3 Community Meetings

During the Pre-Planning Phase consultation Electrification was discussed at other Metrolinx project public meetings and community meetings.

1.2.2.3.1 Lakeshore East Rail Corridor Expansion (Guildwood to Pickering) Project Public Meeting

Electrification was covered at a high level at the Lakeshore East Rail Corridor Expansion (Guildwood to Pickering) Project Public Meeting #3 in September 2016. The Electrification project was not the focus of the meeting however Metrolinx staff were present at the meeting on behalf of both the Lakeshore East Rail Corridor Expansion project and the Electrification project. The project scope of the Electrification Project was presented along with high level information on how the electrification system will work, the tree/vegetation removal requirements for electrification and the potential vegetation mitigation plan. The key themes of the feedback received from the Lakeshore East Rail Corridor Expansion (Guildwood to Pickering) Project Public Meeting #3 included:

- Concerns regarding live electric line;
- Concerns regarding safety of electric service in power outages or severe storms;
- Concerns regarding the proposed electrification design and visual impacts of barriers;
- Concerns regarding increase in hydro costs due to electrification;
- Concerns of cost required to update the current platform designs to accommodate electrification; and,
- General support for electrification

1.2.2.3.2 Barrie Rail Corridor Expansion Project Public Meeting – February 6, 2017

Electrification was covered at a high level at the Barrie Rail Corridor Expansion Project public meeting hosted on February 6, 2017 in the York South-Weston area. An overview of the Electrification project was provided including a discussion on the study area, the technical reports being prepared as part of the TPAP, project components/infrastructure requirements, bridge modifications required, vegetation clearing requirements, and project schedule.

1.2.2.3.3 Old Riverdale Presentation to Metrolinx – May 29, 2017

On May 29, 2017 Metrolinx met with residents of the Old Riverdale neighbourhood. A presentation was given by the residents along with recommendations to Metrolinx. A submission, dated May, 2017, was made to Metrolinx from the residents of Old Riverdale concerning Electrification and GO Expansion plans. A response letter was provided by Metrolinx on June 9, 2017 to the residents of Old Riverdale (**Appendix L-7**).

1.2.3 Indigenous Communities Consultation

Consultation with Indigenous communities has been carried out in parallel with public and agency consultation activities. As part of identifying potentially interested and affected Indigenous communities, Metrolinx submitted a request to the MOECC Environmental Assessment and Approvals Branch (EAAB) on December 23, 2015 to assist in identifying potentially interested and affected Indigenous communities as per the requirements of subsection 7(4) of the O.Reg. 231/08 (see **Appendix L-8** for a copy of this correspondence). In addition, Metrolinx conducted background research to create a draft list of potentially affected Indigenous communities based on the following:

1. All Indigenous communities previously identified in the UP Express EA were included;
2. The Aboriginal and Treaty Rights Information System (ATRIS) was consulted to identify the location of all Indigenous communities within Ontario (Indigenous and Northern Affairs Canada [INAC], 2016). This was further filtered to any communities within 100 km of the Study Area; and,
3. Information was gathered from the Ontario Ministry of Aboriginal Affairs (Ministry of Indigenous Relations and Reconciliation) to spatially identify any groups that were within 100 km of the study area (Ministry of Indigenous Relations and Reconciliation, 2016).

The following communities were identified as potentially affected or having interest in the Project and were subsequently added to the Stakeholder Contact List:

- Alderville First Nation;
- Beausoleil First Nation;
- Chippewas of Georgina Island;
- Chippewas of Rama First Nation;
- Curve Lake First Nation;
- Hiawatha First Nation;
- Huron-Wendat Nation;
- Kawartha Nishnawbe First Nation;
- Mississaugas of the New Credit First Nation;
- Mississaugas of Scugog Island First Nation;
- Moose Deer Point First Nation;
- Six Nations of the Grand River;
- Wahta Mohawks;
- Anishinabek Nation Union of Ontario Indians;

- Association of Iroquois and Allied Indians;
- Métis Nation of Ontario,
- Williams Treaties First Nations (WTFN); and,
- Haudenosaunee Confederacy Chiefs Council.

1.2.3.1 Notifications and Correspondence – Indigenous Communities

Correspondence with the identified communities began in February 2016. Each community identified at that time was sent a letter through standard letter mail, as well as an identical email (**Table 1-8**). This correspondence provided an introduction to the TPAP and the proposed scope of work, a list of all upcoming Round 1 Pre-Planning Phase public meetings (location, date, and time of each meeting) and details of how the community could reach out to Project staff should they have any questions or concerns, and/or wish to participate in the consultation process. All communities on the Stakeholder Contact List were additionally sent a letter through courier and an email during the week of October 24, 2016 notifying them of the second round of public meetings. This correspondence provided information on the proposed scope of work, an update on the work completed to date, a list of all upcoming Round 2 Pre-Planning Phase public meetings (location, date and time), and contact information should they wish to reach out to the Project staff.

Table 1-8: Correspondence Provided to Aboriginal Communities

Community Name	Notice of Round 1 Open House	Notice of Round 2 Public Meeting
Alderville First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Beausoleil First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Chippewas of Georgina Island	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Chippewas of Rama First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Curve Lake First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Haudenosaunee Confederacy Chiefs Council	Letter Dated June 24 th , 2016 Identified March 4, 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Hiawatha First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Huron-Wendat Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Kawartha Nishnawbe First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016
Mississaugas of the New Credit First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016

Community Name	Notice of Round 1 Open House	Notice of Round 2 Public Meeting
Mississaugas of Scugog Island First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Moose Deer Point First Nation	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Six Nations of the Grand River	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Wahta Mohawks	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Anishinabek Nation Union of Ontario Indians	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Association of Iroquois and Allied Indians	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Métis Nation of Ontario	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Letter Dated October 25, 2016 Email: October 26, 2016
Williams Treaties First Nations (WTFN)	Letter Dated February 1 st , 2016 Email: February 2 nd , 2016	Email: October 26, 2016

Copies of letters provided to Indigenous communities are included in **Appendix L-8**.

1.2.3.2 Follow up Efforts and Communications

On May 3, 2016, Metrolinx sent follow-up emails (see **Appendix L-8**) to the Indigenous communities listed below. The correspondence stated that Metrolinx had not yet commenced the impact assessment stage of the project and was aiming to publish the Notice of Commencement in late Summer 2016. It concluded by offering each community the opportunity to schedule an in-person or telephone meeting to discuss the project and any interest the community might have in getting involved. A copy of the original letter sent February 2, 2016 was attached to this follow-up email. The communities that were contacted were:

- Alderville First Nation;
- Beausoleil First Nation;
- Chippewas of Georgina Island;
- Chippewas of Rama First Nation;
- Hiawatha First Nation;
- Mississaugas of Scugog Island First Nation;
- Moose Deer Point First Nation;
- Six Nations of the Grand River;
- Wahta Mohawks;
- Anishinabek Nation Union of Ontario Indians;
- Association of Iroquois and Allied Indians; and

- WTFN.

On May 5, 2016, Metrolinx called and left voice messages to the communities listed below asking to confirm if they had received the original February 2, 2016 notification. A contact name and number was left along with an email for the recipients to contact. The communities that received a phone call were:

- Alderville First Nation;
- Beausoleil First Nation;
- Chippewas of Georgina Island;
- Chippewas of Rama First Nation;
- Hiawatha First Nation;
- Kawartha Nishnawbe First Nation;
- Mississaugas of Scugog Island First Nation;
- Moose Deer Point First Nation;
- Six Nations of the Grand River;
- Wahta Mohawks;
- Anishinabek Nation Union of Ontario Indians; and
- Association of Iroquois and Allied Indians.

On May 4, 2016 Six Nations of the Grand River (SNGR) acknowledged the receipt of the project notification. The Six Nations of the Grand River reminded Metrolinx of the area of their lands, which extend six miles deep from either side of the Grand River. They also reminded Metrolinx that Six Nations has unresolved Land Rights that are the responsibility of the Crown in Right of Canada and Ontario. The correspondence concluded with a request for a meeting with Metrolinx staff to discuss the project.

On August 16, 2016, Metrolinx responded to these comments by stating that they would be conducting a number of studies including Stage 1 Archaeological and Natural Environmental Impact Assessment. These studies will develop mitigation measures where necessary in order to eliminate the threat of potential adverse effects. Metrolinx stated that they would provide copies of these reports when they are available and that their results would also be published in the Environmental Project Report. With regards to treaty rights, Metrolinx noted that all claims and treaty rights should be discussed with the Ministry of Indigenous Relations and Reconciliation. Metrolinx stated that they would be in contact with SNGR representatives in the near future to set up a meeting date.

On May 10, 2016, Metrolinx left a voice message described above with the Métis Nation of Ontario (MNO). An additional follow up email was sent on May 30, 2016. On the same day, MNO acknowledged the receipt of the email and stated that they would be in touch.

On May 11, 2016, a representative from Hiawatha First Nation replied to the follow up correspondence stating that they would be meeting with Metrolinx on May 26, 2016 and bringing the information back to their community.

On May 31, 2016, Metrolinx sent a letter to the Kawartha Nishnawbe First Nation and the Métis Consultation Unit as an additional follow up to the correspondence originally sent out in February, 2016.

On June 24, 2016, Metrolinx sent a letter to the Haudenosaunee Confederacy Chiefs Council. This correspondence provided an introduction to the TPAP and the proposed scope of work, included a list of Pre-Planning Phase public meetings that took place in February/March and provided details of how the community could reach out to project staff should they have any questions or concerns and/or wish to participate in the consultation process.

Metrolinx did not send this follow up correspondence to the Huron Wendat First Nation, Curve Lake First Nation, and the Mississaugas of the New Credit First Nation because they had previously responded to the original correspondence sent on February 2, 2016. Metrolinx also informed Alderville First Nation, Curve Lake First Nation, Hiawatha First Nation, and Scugog Island First Nation that Metrolinx was meeting with Williams Treaties Mississauga Consultation Liaisons on May 26, 2016 to discuss the Lakeshore East Rail Corridor Expansion and the GO Rail Network Electrification TPAP. Alderville First Nation replied on May 3, 2016 advising that they would like to meet and discuss the project. Electrification was discussed with Alderville First Nation at the May 26, 2016 meeting with Williams Treaties First Nations.

1.2.3.3 Summary of Indigenous Communities Comments Received

During the Pre-Planning Phase, Metrolinx received correspondence from five of the Indigenous communities that were contacted:

- Huron Wendat Nation;
- Curve Lake First Nation;
- Mississaugas of the New Credit First Nation;
- Williams Treaties First Nations; and,
- Beausoleil First Nation.

Generally the response from these Indigenous communities indicated that they were interested in the Project and looked forward to being part of the consultation process. All the responding communities wished to play a proactive role in the consultation process either through having representatives present during archaeological investigations or by setting up meetings with Metrolinx to discuss the Project. Common concerns for all of the communities related to the potential impact the Project may have on culturally significant locations and the uncovering of burial sites. Summaries of the comments received by each community are provided below.

Copies of correspondence received from Indigenous communities can be found in **Appendix L-8**.

1.2.3.3.1 Curve Lake First Nation

A letter received on February 23, 2016 from Curve Lake First Nation acknowledged the receipt of the project notification and detailed a list of concerns, which primarily pertained to archaeological resources. Curve Lake First Nation reminded Metrolinx that if any activities unearthed evidence of a potential native burial site or other archaeological finding, the Curve Lake First Nation should be contacted immediately. In addition, Curve Lake First Nation informed Metrolinx that they have available trained archaeological liaisons who would be able to participate in the archaeological assessment process at cost to the proponent of the project.

On May 3, 2016 Metrolinx responded to Curve Lake First Nation via email. Metrolinx stated that should any evidence of previously undocumented native burial sites or artifacts be discovered, the appropriate Indigenous community would be contacted as per the requirements of the *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, C.33.* and the *Cemeteries Act, R.S.O. 1990 c. C.4.* Metrolinx acknowledged the availability of the aforementioned Archaeological Liaisons and would consider their participation in future Stage 2 Archaeological Assessment work. Consultation with Curve Lake First nation will remain ongoing throughout the duration of the Project.

1.2.3.3.2 Mississaugas of the New Credit (MNCFN)

An email received on February 26, 2016 from MNCFN acknowledged the receipt of the project notification and provided a list of requests and general reminders for Metrolinx. MNCFN requested that one of their field liaison representatives be on site during any environmental or archaeological assessment fieldwork, with costs covered by Metrolinx. MNCFN requested that Metrolinx provide MNCFN staff with a copy of all associated environmental and archaeological reports and that MNCFN be immediately notified of any changes to the project that may impact their interests. MNCFN reminded Metrolinx of their protected treaty rights and outlined their expectations to be respected and consulted throughout the project process. The community also requested capacity funding for pre-consultation review and additional funding if they determine that their full participation will be required during the project approvals and permitting process.

On August 16, 2016, Metrolinx responded to these comments, informing MNCFN that they would be pleased to arrange a meeting with their representatives and would be in contact in the near future. With regards to the request for pre-consultation funding, Metrolinx stated that they generally do not offer this form of review funding and requested additional information on the scope of funding requested. All Stage 1 Archaeological Assessment and Natural Environmental Impact Assessments are currently underway and Metrolinx will provide MNCFN with copies of these reports once available. In addition, these findings will also be published in the EPR which will be made available for review. During the process of drafting these reports, should there be any changes to the project that would affect the expressed interests of the community, Metrolinx will inform MNCFN representatives.

With regards to the request for Field Liaison Representative participation, Metrolinx generally follows the Ministry of Tourism Culture & Sport's (MTCS) guidelines relating to monitoring during Stage 3 & 4

archaeological assessment work. Should Stage 3 or 4 Archaeological Assessments be required during the detailed design phase, the MNCFN will be notified and arrangements made as appropriate for participation in on-site monitoring activities. Metrolinx advised MNCFN to discuss all treaty rights and related issues with the Ministry of Indigenous Relations and Reconciliation.

1.2.3.3.3 Huron Wendat Nation

An email received on February 11, 2016 from Huron Wendat Nation acknowledged the receipt of the project notification and requested that shapefiles of the Study Area be sent to them. On February 24, Metrolinx provided a shapefile of the Electrification Study Area which included a 30 m buffer surrounding each rail corridor and proposed TPF.

An email received on February 29, 2016 from Huron Wendat Nation stated that they were pleased to be involved in the Electrification TPAP and wished to express their concerns. Huron Wendat Nation reminded Metrolinx of the significant presence of numerous historical and archeological sites in the Study Area that could be affected by the Project. These locations were provided to Metrolinx at that time. In addition, they noted that should any artifacts be uncovered at any point during the Project they wished to be contacted immediately, and they expressed interest in meeting with Metrolinx staff in the future to discuss the Project and its potential impacts.

On March 24, 2016, Metrolinx responded to these comments, informing Huron Wendat Nation that Stage 1 archeological assessments were currently underway and the locations they provided would be considered where relevant in current and future archeological work. Metrolinx stated that a Stage 2 archaeological assessment would be conducted where recommended and the Stage 1 report would be provided upon its completion. Metrolinx also indicated that they would be pleased to schedule a meeting with Huron Wendat Nation to discuss any concerns and the potential for Huron Wendat Nation monitors to be involved with future archaeological work. Consultation with Huron Wendat Nation will remain ongoing throughout the duration of the Project.

1.2.3.3.4 Williams Treaties First Nations

An email received on October 27, 2016 from Williams Treaties First Nations acknowledged the receipt of the round two public meeting project notification. Williams Treaties First Nations noted that they had reviewed the letter, shared it with Council and forwarded the information to the Williams Treaties First Nation Process Coordinator/Negotiator to review the letter and take necessary action if required. The contact information for their Process Coordinator/Negotiator was also provided and was subsequently added to the project contact list.

1.2.3.3.5 Beausoleil First Nation

An email received on November 2, 2016 from Beausoleil First Nation requested clarification on whether documents for the Lakeshore East Rail Corridor Expansion – Don River to Scarborough GO Station project and the Barrie Rail Corridor Expansion TPAP should have been included in the round two public meeting project notification. Metrolinx clarified that the three projects that were referred to on the round two

public meeting project notification were sent in one notice, links to the individual project websites were provided for further clarification on each project.

1.2.3.4 Meetings with Indigenous Communities

Copies of meeting materials can be found in **Appendix L-8**.

1.2.3.4.1 Williams Treaties First Nations (Mississauga Communities) – May 26, 2016

The purpose of this meeting was to provide the WTFN representatives with an overview of various Metrolinx projects, including the Electrification Project, and provide an opportunity to address any preliminary concerns and gain input. Representatives from Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation and Curve Lake First Nation were in attendance. Metrolinx provided an overview of itself as an organization and its ongoing initiatives, and went over the TPAP including the structure of consultation activities and what milestones were expected when. WTFN confirmed all notifications and correspondence should be addressed to the WTFN community's chief and copied to Karry Sandy McKenzie. In addition, WTFN noted that project notices do not always provide much context for understanding the local environment and could be improved by better identifying major waterbodies and providing links to online mapping.

The next part of the meeting provided an overview of the Electrification Project and other Metrolinx projects. It was noted that the WTFN communities are interested in all stages of archaeological assessments. For example, at Stage 1 the communities may be able to share some background and/or existing conditions information that could help to inform the assessment. WTFN communities have staff available for archaeological monitoring and typically one community would act as the representative providing a monitor on behalf of the WTFN. The importance of respecting the handling of any human remains was noted, including the need to consider and incorporate ceremonial practices. The meeting concluded by discussing various educational, employment, and fare discount opportunities.

1.2.3.4.2 Williams Treaties First Nations – July 18, 2016

The purpose of this meeting was to provide the WTFN representatives with an overview of various Metrolinx projects, including the Electrification Project, and provide an opportunity to address any preliminary concerns and gain input. Representatives from Beausoleil First Nation, Chippewas of Georgina Island, Chippewas of Rama First Nation, Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation and Curve Lake First Nation were in attendance. Metrolinx provided an overview of itself as an organization and its ongoing initiatives, and went over the TPAP including the structure of consultation activities and what milestones were expected when.

Discussion of the meeting then turned to providing an overview of the Historic Allandale Station, Barrie Layover Facility works, and the Barrie Rail Corridor Expansion. It should be noted that these projects are outside the scope of the GO Rail Network Electrification project. In addition, Metrolinx confirmed that they did not commission the study on the Historic Allandale Station and this was performed by Archaeological Services Inc. on behalf of a private developer. WTFN noted that from their perspective,

this meeting marked the initiation of the formal consultation process between them and Metrolinx. It was agreed that moving forward, these meetings would occur at minimum on a quarterly basis and that it was important to have all seven WTFN communities together at these meetings. The next meeting was planned for September 28, 2016.

1.2.3.4.3 Williams Treaties First Nations – September 29, 2016

The purpose of this meeting was to provide WTFN Communities with an update of various Metrolinx projects including the electrification project. Representatives from Beausoleil First Nation, Chippewas of Rama First Nation, Alderville First Nation, and Hiawatha First Nation were in attendance. An overview of the status of archaeological studies being undertaken with regards to the electrification project was provided. This included whether the community would be able to obtain and review the Stage 1 Archaeological Assessment report. Metrolinx confirmed that this would be provided and included in the EPR for review. The next meeting was planned for December 15, 2016.

1.2.3.4.4 Six Nations of the Grand River – September 12, 2016

The purpose of this meeting was to provide the Six Nations of the Grand River with an overview of various Metrolinx projects, including the Electrification Project, and provide an opportunity to address any preliminary concerns and gain input. In addition an overview was provided on the TPAP process including pre-TPAP planning, TPAP consultation activities and the Electrification project milestones that could be expected.

An overview of projects outside the scope of the GO Rail Network Electrification Project was provided and included the Burloak Grade Separation works, Bronte and Highway 407 Park and Ride, Hamilton Light Rail Transit (LRT), Hurontario LRT, the Niagara Falls GO Rail Extension and the new freight rail corridor.

The Six Nations of the Grand River noted that they would appreciate ongoing consultation and communication. A question was asked regarding the ongoing archaeological issues at Allandale GO Station and Metrolinx works at this site. Metrolinx stated that there is a separate working group addressing this issue, an update on the archaeological assessment work at the Allandale GO Station was provided to the Six Nations of the Grand River on September 30, 2016 as a separate document following the September 12, 2016 meeting.

1.2.3.4.5 Mississaugas of the New Credit First Nation – September 19, 2016

The purpose of this meeting was to provide the Mississaugas of the New Credit First Nation with an overview of various Metrolinx projects including the GO Rail Network Electrification Project and provide an opportunity to address any preliminary concerns and gain input. An overview was provided on the TPAP process including pre-TPAP planning, TPAP consultation activities and the Electrification project milestones that could be expected.

An overview of projects outside the scope of the GO Rail Network Electrification Project was provided and included the Hamilton LRT, Hurontario LRT, Barrie Rail Corridor Expansion, Bloomington GO Station,

Burloak Drive Grade Separation works, Bronte and Highway 407 Park and Ride, Lakeshore East Rail Corridor Expansion – Segment 1, Lakeshore East Rail Corridor Expansion – Segment 3, the Union Station Rail Corridor East Enhancements, Stouffville Corridor Grade Separations works, the Niagara Falls GO Rail Extension and the new freight rail corridor.

The Mississaugas of the New Credit First Nation noted that they would appreciate ongoing consultation and communication. The co-proponency between Hydro One Networks Inc. and Metrolinx was asked about, and it was noted that Hydro One as a co-proponent of the GO Rail Network Electrification TPAP has a duty to consult with the Mississaugas of the New Credit First Nation.

1.2.3.4.6 Mississaugas of the New Credit First Nation – Open House - September 28, 2016

Metrolinx staff attended an Open House held by the Mississaugas of the New Credit First Nation on September 28th. Electrification was briefly discussed in a presentation given by Metrolinx staff.

1.2.3.4.7 Huron-Wendat Nation – September 27, 2016

The purpose of this meeting was to provide the Huron-Wendat Nation with an overview of Metrolinx's organization of the GO Rail Network Electrification Project, planned transit expansion projects and provide an opportunity to address any preliminary concerns and gain input. An overview of the Transit Project Assessment Process (TPAP) was provided including pre-TPAP planning, consultation requirements and approach, documentation and associated review.

Metrolinx provided an overview of the following projects, GO Rail Network Electrification, Hamilton LRT, Hurontario LRT, Barrie Rail Corridor Expansion, works in the vicinity of the historic Allandale Station, Burloak Grade Separation, Lakeshore East Rail Corridor Expansion – Don River to Scarborough GO Station, Lakeshore East Rail Corridor Expansion – Guildwood to Pickering and Union Station Rail Corridor East Expansion.

With regards to electrification an inquiry was made to whether electrification will require underground work. It was noted that some underground work will be required and that archaeological assessment is being completed as part of the TPAP. The Huron-Wendat Nation stated that to improve consultation they have developed project specific action plans with the Ministry of Transportation (MTO) to assist in project coordination, and suggest the use of these action plans with Metrolinx. Metrolinx advised that they would reach out to MTO to discuss. It was agreed that regular meetings with the Huron-Wendat would ensue to provide an opportunity to discuss various Metrolinx projects including electrification.

The Huron-Wendat Nation noted that they had information to provide Metrolinx regarding potential mitigation measures and protocols for archaeological assessment. A corresponding letter was sent to Metrolinx on October 25, 2016. A response letter was sent on November 8 2016 and a subsequent meeting was held on December 1, 2016 to discuss high level engagement with Huron-Wendat for RER projects.

1.2.3.4.8 Huron-Wendat Nation – December 1, 2016

The purpose of this meeting was to provide the Huron-Wendat Nation with an overview of Metrolinx's ongoing projects, including the Electrification project scope and timeline, and to discuss developing a framework with Huron-Wendat Nation for addressing consultation and engagement regarding Metrolinx RER and Rapid Transit Projects.

1.2.3.4.9 Huron-Wendat Nation – February 13, 2017

The purpose of this meeting was to provide the Huron-Wendat Nation with an overview of Metrolinx's ongoing projects, including the Electrification project. An overview of the Electrification project scope and and update on the archaeological work to date was provided. Metrolinx advised that the Stage 2 Archaeological Assessments were being completed. The Electrification draft EPR was sent to Huron-Wendat Nation via courier January 19-23, 2017 and Metrolinx advised that they were interested in seeking feedback from Huron-Wendat Nation on the draft EPR including the Stage 1 Archaeology Report (Appendix D2 in the draft EPR package). Metrolinx also advised that they were interested in seeking feedback on the commitments for further archaeology assessment and/or monitoring during project construction as outlined within Volume 3 and Volume 5 of the draft EPR. Metrolinx advised that they were particularly interested in feedback from Huron-Wendat Nation on areas in and around the Allandale Waterfront Station.

1.2.4 Property Owners Consultation

Metrolinx acquired contact information for properties located within 30 m of the Study Area through Teranet, which owns and operates the Ontario Electronic Land Registration System. Subsequently, those property owners identified through this process were provided with a notification on February 1, 2016, and all identified property owners later received the public notices listed in **Table 1-1** (see **Appendix L-3**). These notices were also provided to condominium and apartment building managers within the Study Area for posting in common areas.

At this time, Metrolinx also contacted owners of properties being considered as potential locations for TPFs. As part of this correspondence (see **Appendix L-11**), Metrolinx requested a private meeting with each property owner at their convenience.

During the second round of consultation Metrolinx went beyond the recommended 30m requirement and sent mailers to property owners within 100m of the study area. Mailers were sent via Canada Post Smartmail Marketing Campaign. Over 500,000 addresses were included in the 100m study area mail out. Mailers were sent out to arrive the week of October 24, 2016.

1.2.4.1 Property Owner Meetings

In addition to the correspondence described above, Metrolinx attempted to follow up with those property owners whose lands were considered as preferred TPF locations prior to the Pre-Planning Phase public meetings. This was done either through telephone calls or in-person meetings. The majority of these

meetings were held prior to the Round 1 public open houses in order to personally explain the Project and any potential impact to the property owners' lands. Discussions with property owners continued throughout the TPAP as required.

1.2.4.1.1 First Gulf Corporation

On August 5, 2016 Metrolinx met with First Gulf Corporation to review the proposed First Gulf Corporation development at the Don Yard-Unilever Station/Don Yard paralleling station site. Metrolinx Electrification staff in attendance noted that the conceptual renderings and layouts provided required further details regarding electrification. Metrolinx suggested that in all future designs for the purposes of the public should include the Don Yard Paralleling Station and its associated infrastructure as well as the OCS portals, gantries and related infrastructure.

Concerns were raised regarding the siting of the Don Yard paralleling station adjacent to the Unilever station site. Concerns included: the minimum separation distance as identified in the Downtown East Initial Business Case, the location of the gantry structures, and vehicle access points to the site.

On March 24, 2017 Metrolinx met with First Gulf Corporation to review the proposed development at the Don Yard-Unilever Station/Don Yard paralleling station site. Metrolinx staff explained that the location of the proposed Don Yard Paralleling Station was driven primarily by the gantry system that is part of the station and is required to be located at a specific proximity to the switching stations. First Gulf noted that their preference would be consideration of an alternate location for the paralleling station, including consideration of the lands on the west side of the Don River.

1.2.4.1.2 Waterfront Toronto

On February 2, 2017 Metrolinx meet with Waterfront Toronto staff to discuss the USRC East project. A representative for the electrification project was present to answer any questions regarding electrification.

On March 10, 2016 Metrolinx meet with Waterfront Toronto staff and the Gardiner East EA team to discuss the Gardiner East EA recommended preferred alternative as it relates to Metrolinx infrastructure and proposed projects including the Electrification project. As Metrolinx has a number of projects underway or planned in the vicinity of the Gardiner East EA study area this meeting was to discuss coordinating project works to ensure any conflicts between projects are avoided or minimized. Metrolinx provided an overview of the Electrification project scope, project infrastructure, TPAP timeline and an overview of the proposed location of the Don Yard PS site. Metrolinx was requested to provide Waterfront Toronto with preliminary comments for consideration. A letter with Metrolinx's preliminary comments was subsequently sent to Waterfront Toronto on May 12, 2016.

1.2.4.1.3 Cathedral Court Co-op

On May 24, 2017 Metrolinx meet with Cathedral Court Co-op board executive and residents to discuss Metrolinx project work, particularly, Union Station Rail Corridor track expansions, in the vicinity of the Co-

op. Vegetation clearing requirements for Electrification OCS poles and wiring was discussed. Questions arose regarding the potential visual impact from the OCS poles and whether there are any health implications of living near the electrified rail. It was noted that the gantries will be around 12 metres high which is necessary to accommodate freight traffic and that it will be hard to visually hide the poles, however mitigation is being looked into. With regards to health implications it was noted that reduced air emissions is one of the advantages of going electric, and that the electrification structure will eliminate electromagnetic fields.

1.2.5 Review Agency Consultation

All review agencies on the Stakeholder Contact List were sent an email on February 2, 2016 notifying them of the first round of public meetings. All review agencies on the Stakeholder Contact List were additionally sent an email on October 25, 2016 notifying them of the second round of public meetings.

The Review Agencies that were identified were:

Federal

- Indigenous Affairs and Northern Development Canada (now Indigenous and Northern Affairs Canada);
- Canadian Environmental Assessment Agency;
- Canadian Transportation Agency;
- Environment Canada (now Environment and Climate Change Canada);
- Fisheries and Oceans Canada;
- Health Canada;
- National Trust for Canada;
- Parks Canada; and,
- Transport Canada - Ontario Region.

Provincial

- Architectural Conservancy of Ontario;
- Infrastructure Ontario;
- Ministry of Aboriginal Affairs (now Ministry of Indigenous Relations and Reconciliation);
- Ministry of Agriculture, Food, and Rural Affairs;
- Ministry of Community and Social Services District office;
- Ministry of Community Safety & Correctional Services;
- Ministry of Economic Development, Employment & Infrastructure (now Ministry of Economic Development and Growth);
- Ministry of Education;

- Ministry of Energy;
- Ministry of Health and Long-Term Care;
- Ministry of Municipal Affairs & Housing (now Ministry of Municipal Affairs);
- Ministry of Natural Resources and Forestry;
- MOECC - York-Durham Office;
- MOECC - Barrie Office;
- MOECC - Central Region Office;
- MOECC - Halton-Peel Office;
- MOECC - Toronto District Office;
- Ministry of Tourism, Culture & Sport;
- Ministry of Training, Colleges and Universities (now Ministry of Advanced Education and Skills Development);
- Ministry of Transportation; and,
- Ontario Heritage Trust.

Municipal

- City of Barrie;
- City of Brampton;
- City of Burlington
- City of Markham;
- City of Mississauga;
- City of Oshawa;
- City of Pickering;
- City of Toronto;
- City of Vaughan;
- County of Simcoe;
- Region of Durham;
- Region of Halton;
- Region of Peel;
- Region of York;
- Town of Ajax;
- Town of Aurora;
- Town of Bradford/West Gwillimbury;

- Town of East Gwillimbury;
- Town of Innisfil;
- Town of Newmarket;
- Town of Oakville;
- Town of Whitby;
- Town of Whitchurch-Stouffville; and
- Township of King.

Conservation Authorities

- Central Lake Ontario Conservation Authority (CLOCA);
- Halton Region Conservation Authority (HRCA);
- Conservation Ontario;
- Credit Valley Conservation (CVC);
- Lake Simcoe Region Conservation Authority (LSRCA); and,
- Toronto and Region Conservation Authority (TRCA).

Other Stakeholders

- Toronto Transit Commission;
- Fort York Historic Site;
- VIA Rail;
- Canadian Pacific Railway;
- Canadian National Railway Company;
- Central Local Health Integration Network;
- Central East Local Health Integration Network;
- Greater Toronto Airports Authority;
- NavCanada
- Niagara Escarpment Commission;
- Ontario Power Generation; and,
- Toronto Central Local Health Integration Network.

A list of review agencies contacted is included in **Appendix L-1** and copies of notifications sent to review agencies are included in **Appendix L-3**. Copies of review agency correspondence and meeting materials can be found in **Appendix L-9 to L-11**.

1.2.5.1 Federal

A summary of consultation with federal agencies is described in the following sections.

1.2.5.1.1 Canadian Environmental Assessment Agency

On February 19, 2016 Metrolinx received correspondence from the Canadian Environmental Assessment Agency acknowledging the receipt of the notification of the first round of public meetings. The letter detailed the responsibilities of the Agency, which includes the federal environmental review on projects that have the potential to cause significant adverse environmental effects in areas of federal jurisdiction. The Agency requested that Metrolinx review the *Regulations Designing Physical Activities* to determine if the project would require federal review. If Metrolinx does not find that this project is applicable to this set of regulations, the Agency requested that it be removed from the Stakeholder Contact List. Upon reviewing these regulations, Metrolinx confirmed that the project is not subject to this set of regulations and removed the Agency from the list.

1.2.5.1.2 Parks Canada

On February 2, 2016, Metrolinx received correspondence from Parks Canada acknowledging the receipt of the notification of the first round of public meetings. Parks Canada staff informed Metrolinx that they would be in the City of Toronto between February 29 and March 2, 2016 and would like to meet with Project staff to discuss the Union Station Platform Action Plan. Metrolinx subsequently scheduled a meeting for February 29, 2016 with Parks Canada.

Parks Canada Meeting – August 28, 2015

The purpose of this meeting was to review and discuss the requirements for changes to Parks Canada properties. Parks Canada stated that there two types of agreements which are required to be in place when there is potential for changes to their properties (an easement agreement and a collateral agreement), and these generally apply in the context of preparing Conservation Plans. Parks Canada explained the three stages of submission that they require (Preliminary Submission, Design Submission, Ready for Construction level) for proposed changes to their properties.

Parks Canada Meeting – February 29, 2016

This meeting reviewed the project impact on the Union Station Train Shed. As Union Station is a National Historical Site, Parks Canada is responsible for protecting the heritage elements of the property. The meeting included an overview of the items that had been removed from the scope of the Union Train Shed Rehabilitation Project, followed by a discussion on the status of the conceptual design for the Union Station Train Shed. During this discussion, Metrolinx confirmed that clearance issues publicized in the January 28, 2016 Globe and Mail article (Gee, 2016) should not be a problem and that there will be no crossovers within the train shed.

Parks Canada asked Metrolinx to prepare a communications plan which would outline main points of contact with regards to key aspects of the Project, including the heritage assessment. It was determined during this meeting that James Hartley would act as the Electrification Contact on Metrolinx's behalf.

Parks Canada Meeting – June 23, 2016

The purpose of this meeting was to discuss potential impacts to Union Station resulting from electrification and the Cultural Heritage Assessment process that will be undertaken. Metrolinx provided details on the OCS and explained the conceptual design of the Train Shed. To ensure safe clearance above train and safe clearance below structure, Metrolinx noted that the following design solutions are being considered:

- Linear Motion AT Support which would be installed vertically within smoke vent or attached to the cast-in-place bulkhead; and,
- Local Cut-Out of Smoke Vent Panel to provide clearance to support arm.

A fixed termination system, which allows wires to sag, would be used for the Train Shed. Metrolinx committed to undertaking a High Level Heritage Impact Assessment (HIA) for the Train Shed and providing a copy to the City of Toronto and Parks Canada for review. The meeting concluded by providing an expected timeline of the TPAP.

Parks Canada - Heritage Coordination Meeting #1 – April 4, 2017

The purpose of this meeting was for Metrolinx and Parks Canada and the City of Toronto to discuss ongoing projects at Union Station, how these projects may be affected by electrification, and how electrification affects heritage attributes of Union Station. The projects discussed include, among others:

- Union Station Trainshed Rehabilitation Project
- Union Station Vertical Access Improvements
- Union Station Enhancement Project
- Union Station Revitalization Project

The meeting concluded with the agreement that reports on the status of these projects and timelines would be shared at future monthly meetings.

Indigenous Affairs and Cultural Heritage Directorate Meeting – April 11, 2017

This meeting was held to discuss the Electrification TPAP and the Union Station HIA with the Parks Canada Indigenous Affairs and Cultural Heritage Directorate (IACHD). The IACHD confirmed Parks Canada as having regulatory oversight of Union Station, and the legal coordination of both Parks Canada and MOECC in respect to project approval was discussed. Metrolinx advised that there is a need to understand the legal coordination of both MOECC and Parks Canada project approval, in order to avoid any future conflicts. Metrolinx sent further inquiries regarding the coordination of both MOECC and Parks Canada project approvals to Parks Canada following the meeting.

Heritage Coordination Meeting #2 – May 2, 2017

The progress of ongoing Union Station projects was discussed at this meeting, as well as any coordination required between members or other stakeholders. Draft HIAs for the “Bay Bridge” and “Column Te” projects were pending submittal to Parks Canada.

1.2.5.2 Provincial

Metrolinx has worked to coordinate reviews of key items with Provincial Agencies where possible. A number of provincial agencies have been notified of major project milestones, and will remain on the Stakeholder Contact List unless they ask to be removed. A summary of consultation with provincial agencies is described in the following sections.

1.2.5.2.1 Ministry of Tourism, Culture and Sport (MTCS)

On February 12, 2016, Metrolinx received an email from MTCS confirming the receipt of the notice of the first round of public meetings and requesting that Metrolinx send a copy of the meeting display boards. In addition, MTCS asked to arrange a meeting with the Project Study Team to discuss what cultural heritage studies Metrolinx intended to undertake and MTCS’ expectations for them. Metrolinx subsequently scheduled a meeting with MTCS on March 29, 2016.

MTCS Meeting – September 17, 2015

The purpose of this meeting was to discuss the potential heritage impacts and challenges surrounding Union Station in relation to the proposed works of the Electrification Project. As part of the TPAP, Metrolinx will be conducting a detailed HIA, which would commence prior to the TPAP and be completed during the detailed design phase. The TPAP portion of the HIA would include a high level assessment of heritage attributes and a commitment to further work. MTCS noted that they would only need to ‘approve’ of these studies if buildings/heritage attributes were to be removed or demolished as part of the proposed Electrification EA. MTCS advised that the first step for Metrolinx should be to review statements of significance to the property and other reports already completed and use this information to apply O. Reg. 106.

MTCS Meeting – March 29, 2016

The purpose of this meeting was to discuss the cultural heritage requirements surrounding different elements of the Electrification Project and the publication of the EPR. Metrolinx indicated that the Draft EPR will not contain a full Culture Heritage Evaluation Report (CHER), but Metrolinx will aim to have this complete by the Notice of Completion and subsequent Final EPR publication. Metrolinx confirmed that once MTCS made their Strategic Conservation Plan available, Metrolinx would commit to use it. Metrolinx further stated that Stage 1 archaeological assessments would be completed and Stage 2 completion would be dependent on being able to gain access to the sites.

1.2.5.2.2 Ministry of Transportation (MTO)

On January 21, 2016, MTO provided comments on the Electrification Project as a follow up to the meeting held on November 10, 2015. For electrification, MTO noted that an encroachment permit would be required for any proposed works in the MTO Right-of-Way (ROW) and a sign permit would be required for signage that would be visible from any 400 series highway. A building and land use permit would be required for works that take place outside the MTO ROW, but within the MTO permit control area. MTO also noted that proposed structures must be a minimum of 14 m from current or proposed highway property lines. These items were acknowledged at the April 1, 2016 meeting with MTO. In addition, Metrolinx sent a formal response on July 7, 2016 stating that they would obtain all necessary permits from MTO in advance of construction activities and noted that a minimum setback of 3 m is typically provided from the bridge fascia to the nearest OCS support structure to account for varying site conditions, as well as track and OCS geometries/design requirements.

On April 4, 2016, MTO provided Metrolinx with a list of action items to be addressed. In response to these action items and the previous January 21, 2016 comments, Metrolinx provided an official response to MTO on April 13, 2016. In the response, Metrolinx confirmed that it would obtain all permits required by MTO in advance of fieldwork and construction activities. Although Metrolinx acknowledged the 14 m setback required by MTO, Metrolinx proposed that a 3 m setback is typically provided for OCS and would minimize the need for attachments to bridges, including those owned and maintained by MTO. Metrolinx further acknowledged the action items developed at the April 1, 2016 meeting and was committed to fulfilling its obligations.

On July 26, 2016, MTO provided Metrolinx with comments for the Electrification Project. MTO stated that they would like to review the draft EPR prior to submission. MTO listed several responsibilities that Metrolinx has as the proponent regarding MTO bridges and structural concerns surrounding how the Project will affect these bridges. MTO stated that all barriers on provincial highways need to be crash tested and should be confirmed by the Bridge office for compliance. In addition, MTO noted that the design for protective barriers must account for access requirements that are necessary for maintenance activities. MTO restated comments from their previous January 21, 2016 submission regarding Corridor Management.

MTO Meeting – November 10, 2015

The purpose of this meeting was to provide an introduction of the project to MTO staff and answer any preliminary questions. Metrolinx staff explained the scope of the project and how it fits into the overall RER Plan. An overview of electrification infrastructure was provided followed by potential impacts to bridges, and concluded with an overview of the next steps of the project. In particular, MTO staff were interested in how the Project would affect MTO-owned structures. Metrolinx identified which MTO bridges would be affected by the Project and discussed items such as bridge attachments, future maintenance, and cost sharing.

MTO Meeting – April 1, 2016

The purpose of this meeting was to provide an update on MTO-owned bridges and highways along Metrolinx corridors proposed for electrification. Metrolinx provided the expected timeframes for the release of the Request for Quote (RFQ) and Request for Proposal (RFP) to provide a better sense on when it could be expected for Metrolinx to begin the tendering process. In addition, Metrolinx informed MTO that electrification was no longer proposed to extend past Mile 31.5 (west of the Burlington GO Station) and thus would not impact the Queen Elizabeth Way (QEW) Overpass.

Metrolinx then provided an overview of the OCS and the expected impacts it would have on MTO-owned bridges. This included technical requirements on infrastructure such as flash plates, anchoring, and future bridge inspections. The proposed Allandale and Unionville TPFs and their potential impact on future MTO projects associated with the Highway 400 and 407 were discussed. Metrolinx also discussed other impacts to bridges including issues associated with obtaining required clearance and screening requirements. Metrolinx concluded the meeting by providing a projected schedule for the Electrification TPAP.

1.2.5.2.3 Ministry of the Environment and Climate Change (MOECC)

On December 23, 2015, Metrolinx sent an email to the MOECC requesting that they review the draft list of Indigenous communities as per the requirements of subsection 7(4) of O. Reg. 231/08 and provide any feedback if necessary. A follow-up email was sent on February 4, 2016. On March 4, 2016, Metrolinx received an email from the MOECC recommending that the Haudenosaunee Development Institute (HDI) be added to the Stakeholder Contact List. They were subsequently added to the list.

MOECC Meeting – November 17, 2016

The purpose of this meeting was to provide MOECC with a project update. An overview of the project was provided including the project scope, consultation work to date, project components/ infrastructure requirements, bridge modification requirements, vegetation removal requirements and noise assessment approach. Information on the co-proponency between Metrolinx and Hydro One was also provided. The structure of the EPR was discussed and MOECC was made aware that the draft EPR would be circulated for their review.

MOECC Meeting – December 5, 2016

The purpose of this meeting was to provide a project update and overview of the approaches taken to assess noise and vibration impacts as part of the Electrification EA. Noise and vibration modelling results and mitigation considerations were also discussed.

1.2.5.2.4 Ministry of Natural Resources and Forestry (MNR)

On October 2, 2015, MNR responded to a natural sciences data request made on October 1, 2015, which had been sent out as part of the baseline conditions data collection phase of the TPAP.

MNRF Meeting – February 13, 2017

The purpose of this meeting was to provide MNRF Aurora District and Midhurst District staff with a project update and overview of the vegetation removal requirements for Electrification, the scope and methodology of the natural environment impact assessment, the potential effects to Species at Risk and the subsequent mitigation measures proposed. In addition, required bridge modifications at watercourse crossings were discussed. It was noted that all potential impacts to bridges spanning over watercourses are limited to OCS attachments which will take place on the existing bridge deck, no in-water works are required.

MNRF noted that joint consultation between MNRF and local conservation authorities is the recommended approach to undertake permitting requirements associated with construction staging and access during detail design.

Updated shapefiles for project study area and a hardcopy of the Natural Environment Impact Assessment report (**Appendix A2**) were requested and subsequently provided to MNRF Aurora and Midhurst districts via courier on February 15, 2017.

1.2.5.3 Municipal

1.2.5.3.1 Initial Meetings

As part of the Pre-Planning Phase consultation process, Metrolinx began engaging municipalities across the GTHA through a series of face-to-face meetings in order to present project updates and to seek feedback early in the planning process on a number of project and design components such as bridge modifications, proposed locations for TPFs, affected utilities, future visual/aesthetic design considerations for gantries/TPFs, and so on (see **Table 1-9** for the list of meetings). Metrolinx also had meetings with several municipalities following these initial presentations. The extent to which electrification was discussed varied from meeting to meeting and is detailed in the sections below.

Table 1-9: Pre-Planning Phase Municipal Meeting Dates

Municipality	Date of Meeting
Simcoe County, City of Barrie, Town of Innisfil	November 13, 2015
City of Oshawa	November 18, 2015
Region of Durham	November 18, 2015
City of Pickering	November 19, 2015
Town of Ajax, Town of Whitby	November 26, 2015
Region of Halton, Town of Oakville	December 8, 2015
Region of Peel, City of Brampton ²	December 11, 2015
City of Burlington	December 15, 2015

² City of Mississauga Staff were invited, but unable to attend this meeting.

Municipality	Date of Meeting
City of Vaughan	December 16, 2015
Region of York, City of Markham, Town of Richmond Hill, Township of King ³	December 16, 2015
Town of Newmarket	December 17, 2015

Although the general content was similar for all the municipal meetings, each meeting was tailored to meet the specific concerns of each municipality, as summarized below. Metrolinx staff addressed the concerns listed below through discussion in meetings and various correspondence. Copies of presentations given to each municipality, meeting minutes, and all correspondence are included in **Appendix L-9**.

Simcoe County, City of Barrie, Town of Innisfil

- Is there another way to electrify the network besides using overhead wires?
- Is there a restriction on how far the traction power facilities can be located from the rail corridor?
- Will the layover facility ever be moved outside of City of Barrie?
- Will the refueling station at the Barrie Layover be moved?

Town of Ajax

- How will de-energizing for maintenance activities impact train operations?
- What utilities information does the Town have to provide to Metrolinx?
- How does electrification fit into the LSE expansion to Bowmanville?
- How do the potential new GO stations at Lakeridge Road and in Pickering fit into the Project?

City of Oshawa

- Was it a cost driven factor not to use a third rail, as opposed to OCS?
- Is Metrolinx open to different design options for the bridge barriers?
- Will the bridge barriers be fully funded by Metrolinx?
- If the LSE corridor is not going to be electrified past the existing Oshawa GO Station will passengers need to switch trains to travel past Oshawa GO Station?
- What is the rationale for not including the LSE expansion (Oshawa to Bowmanville) within the Electrification Program if it has been approved?

Region of Durham

- Will there be a period where both diesel and electric trains are used?
- Has a timeline or phasing plan been established yet to implement electrification?
- Will ice on the overhead contact wires affect service?

³ Town of Whitchurch-Stouffville Staff were invited, but unable to attend this meeting.

- Will the OCS clearance requirements support bi-level passenger cars?
- What will happen if the OCS breaks down? This would add another complexity to the system.
- Is lowering the tracks a possibility to address bridge clearance issues?

City of Pickering

- Will the existing bridge barriers be retrofitted to meet the requirements of electrification?
- Will you need to widen the Rouge River Bridge?
- Will the level crossing at Rodd Avenue be addressed as part of this project? Should this not be addressed prior to increased service?
- Will the Electrification Program result in increased train speeds?
- Will topography and restricted road access be an issue for construction?
- Will screening be provided for residential areas backing on to the rail corridor to address any noise and visual impacts?
- Will there be a presentation to Council on the Electrification Project?

Town of Whitby

- Will alternative sources of energy be considered/used?
- What security measures are going to be taken to protect the corridor and associated infrastructure?
- Can glass be used in bridge barrier design?
- Superior Propane is adjacent to the East Rail Maintenance Facility. Does that present a hazard to an electrified corridor?
- What is the process if there are concerns?
- Does Metrolinx have the right to expropriate?
- Has the ERMF been designed to accommodate electrification?
- If the TPF is going to be located within the confines of the ERMF can you build up to remove the need for a separate EMU Maintenance Facility?

Region of Halton, Town of Oakville

- Are electric trains quieter?
- Does Metrolinx own the Lakeshore West (LSW) track?
- Are gantries located at a regular interval along the rail corridor?
- What are the size requirements of a Switching Station?

Region of Peel, Brampton

- What type of train will be used?
- How do you determine bridge clearance information?

- Does this TPAP include track expansion?
- Will Ontario electrical codes be followed for OCS wires?
- Will the OCS restrict wide and tall loads at level crossings?

City of Burlington

- What is the clearance between the train and the soffit of the bridge?
- Are you able to locate GO stations closer together with an electric system?
- What additional fencing along the corridors will be required?
- Will land need to be acquired?

City of Vaughan

- How were the clearance requirements determined?
- Does the Paralleling Station have to be located right by the track?
- Is this EA only reviewing electrification?
- Will this project's consultation activities be coordinated with other ongoing Metrolinx projects?
- Is Metrolinx reviewing the need for grade separations? How does that fit within this project?
- Would electrification infrastructure preclude additional grade separations in the future?

Region of York, City of Markham, Town of Richmond Hill, Township of King

- Will the TPFs introduce the potential for stray current?
- What access is required to service the TPF sites?
- Where are you within the design stage?
- Can bridge barriers be built on top of existing parapet walls?
- Is there an Electrification Program Director?
- Is there an opportunity to widen sidewalks when installing bridge barriers?
- Is the schedule for the entire network or just one corridor?
- How will the public be consulted?
- The Region is highly engaged in projects and will require coordination/inspection of work (including construction) for any attachments/modifications to bridges.

Town of Newmarket

- How much cost savings will this project generate? By how much will greenhouse gases be reduced (i.e., what equivalent of cars taken off the road)?
- What is the required clearance from top of train?
- Will Metrolinx be following any legal standard for inspection and maintenance of the barriers and bridge attachments (i.e., every 2 years)?

- There are freight trains coming from Bradford. Will this be an issue under electrified service?
- Is there any benefit in having TPFs located near GO stations?
- Will the track twinning be completed prior to electrification?
- Why not use a third rail design to facilitate electrification?

Town of Aurora

A formal electrification meeting was not held with the Town of Aurora. However, on April 28, 2016, a meeting was held with municipal staff to discuss the separate Barrie Rail Corridor Expansion EA. During this meeting, the Electrification Project was briefly discussed as a separate undertaking to the Barrie Rail Corridor Expansion. The main purpose was to differentiate between the two ongoing EAs so as to identify which project would be studying what issues.

1.2.5.3.2 Subsequent Meetings

After the initial introduction meetings, several subsequent meetings with various municipalities took place. As these meetings were also held to discuss other Metrolinx undertakings, only content related to the Electrification Project is summarized below.

Town of Newmarket

A meeting was held with the Town of Newmarket on May 18, 2016 to discuss the Barrie Rail Corridor Expansion EA. Although this project is outside the scope of the Electrification TPAP, electrification was briefly discussed with Town staff. This included discussing the proposed Newmarket SWS and construction staging site, which are owned by the Town of Newmarket. Metrolinx asked Town staff to review these sites and advise Metrolinx of any concerns they may have with the sale of these properties.

County of Simcoe

On March 3, 2016, Metrolinx met with County of Simcoe, City of Barrie, Town of Innisfil, and Town of Bradford West Gwillimbury staff to discuss different components of the Barrie Rail Corridor Expansion EA. During the meeting, a brief overview of the Electrification Project as provided and it was noted that assessments and property requirements would be coordinated between the various TPAPs.

Region of York

On March 11, 2016, Metrolinx met with Region of York, City of Vaughan, Township of King, Town of Aurora, City of Newmarket, and Town of East Gwillimbury staff to discuss different components of the Barrie Rail Corridor Expansion EA. During the meeting, a brief overview of the Electrification Project as provided and it was noted that assessments and property requirements would be coordinated between the various TPAPs.

Town of Bradford West Gwillimbury

Similar to the Town of Aurora, a formal electrification meeting was not held with the Town of Bradford West Gwillimbury. However, on June 14, 2016, a meeting was held with municipal staff to discuss the

separate Barrie Rail Corridor Expansion EA and Bradford Train Layover Facility. During this meeting, the Electrification Project was briefly discussed as a separate undertaking to the Barrie Rail Corridor Expansion. Municipal staff inquired about the potential to have electrification infrastructure installed underground. Metrolinx confirmed that due to safety, the system needs to be installed overhead. This is typical of electrified rail infrastructure worldwide.

City of Barrie

On June 29, 2016 Electrification Project staff met with City of Barrie staff to discuss the Electrification Project in relation to the Barrie Collingwood Railway. Metrolinx provided a general overview of the Project and the proposed 7 m vegetation clearance zone. City of Barrie staff noted that a possible creek may run under the Allandale TPS; Metrolinx responded that site investigations did not note any creek through the site, though there is a creek located east of the site.

On July 28, 2016 Electrification project staff met with City of Barrie staff to discuss the Electrification Project in relation to the Barrie Collingwood Railway (BCRY). Electrification staff presented three options for the 25kV feeder route along the BCYR ROW. These included:

- Option 1 – Steel poles every 100 m;
- Option 2 – Insulated / wooden poles every 30 m; and
- Option 3 – Underground duct banks.

When asked if using the BCRY rails as a return was allowable, Metrolinx stated that it was currently not a preferred option, but will be carried forward for consideration in detailed design. City of Barrie staff noted that the BCRY has been identified for future residential development/intensification, to which Metrolinx acknowledged that the TPAP will identify potential visual effects along BCRY. It was noted that permitting would involve a utility agreement and that timelines surrounding future residential development are unknown at this time. When asked if tracks currently have an operable signal system, City of Barrie staff noted that there are significant issues surrounding rust building up on rails.

Metrolinx requested that a copy of the completed Class EA for the proposed Stormwater Management Facility at the Allandale TPF site be provided. This was subsequently provided on July 29, 2016. This topic was also addressed in Metrolinx's letter to the City of Barrie dated November 15, 2016.

On February 22, 2017 Electrification Project staff met with City of Barrie staff to provide an updated on the Electrification Project. Metrolinx provided a general overview of the Project, the infrastructure requirements and bridge modifications required. It was discussed that the draft EPR had been provided to the City of Barrie for comment and comments were requested by February 28, 2017. The location of the Allandale Tap/TPS location and the Barrie Collingwood Railway (BCRY) 25kV feeder route was reviewed. It was noted by City of Barrie staff that BCRY trains go through Allandale Waterfront GO Station and that the Highway 400 overpass is a clearance point. Metrolinx staff noted that the electrified system will meet Transport Canada requirements, gantry and OCS structures will be placed at a minimum of 2.9

m off of the centerline of the track and should have no dimensional load impacts to the BCRY. Metrolinx requested samples of BCRY dimensional loads and track diagrams.

City of Vaughan & York Region

On September 15, 2016 Electrification project staff met with the City of Vaughan and York Region to discuss the Maple Paralleling Station siting. Metrolinx provided a general overview of the function of paralleling station and the criteria used to establishing the recommended TPF site locations and the criteria used to determine alternate siting locations for the Maple station. Three Maple PS siting options were discussed with City staff. City and Regional staff provided Metrolinx with an update on future planned projects within the vicinity of each proposed PS site including an update on the plans for Block 27, note of an Individual EA underway for roadway improvements along Teston Road, and potential for work at Keele Street and the Barrie rail corridor.

A summary of technical studies being undertaken as part of the TPAP was provided. City staff noted that they would be interested in being involved with the aesthetic design of any proposed noise wall within their jurisdiction.

City of Vaughan staff requested an updated layout of the Maple Siting Option 3 to reflect discussion of planned developments in the vicinity of the site. As a result, the Maple PS site was relocated to accommodate the City's concerns and York Region and City of Vaughan were provided an updated layout of the Maple PS site Option 3 in the municipal information package sent on November 7, 2016.

Municipal Information Packages

Information packages were sent via email to all 24 municipalities identified in Section 1.2.4.1.3 prior to the start of the Second Round of public meetings in November 2016. The purpose of the information packages was to provide municipalities with an update on the project as well as provide an overview of the electrification infrastructure and any identified noise and bridge impacts and mitigation measures within each municipality's jurisdiction. The municipal information packages provided information on the November 2016 public meetings, the status of the project, the status of the Environmental Project Report, the proposed electrification infrastructure including the traction power facilities, bridge modifications required, the proposed network wide tree compensation approach, the proposed noise mitigation approach and the project timeline and next steps. Municipalities were provided with a copy of the public meeting notice and a copy of the noise roll plans to be shown at each public meeting.⁴

1.2.5.3.3 City of Toronto Meetings

Given the extent of work within and project involvement of the City of Toronto, more meetings were held with the City of Toronto compared to other municipalities. The information presented to other

⁴ In lieu of a formal information package email, the information within the municipal information packages was presented to the City of Toronto at the November 4, 2016 TAC meeting.

municipalities was also presented to the City of Toronto, and other topics were discussed at a series of follow-up meetings. The dates of these meetings are shown in **Table 1-10** and described further below.

Table 1-10: Pre-Planning Phase City of Toronto Meetings

Meeting	Date
Technical Advisory Committee Meeting #1	September 11, 2015
Technical Advisory Committee Meeting #2	January 8, 2016
Technical Advisory Committee Meeting #3	February 8, 2016
Don Yard Workshop	February 18, 2016
City of Toronto and Toronto Transit Commission Joint Meeting	March 1, 2016
Toronto Cultural Heritage Meeting #1	March 29, 2016
Technical Advisory Committee Meeting #4 (Bridges)	April 12, 2016
Technical Advisory Committee Meeting #5 (Bridges)	April 14, 2016
Technical Advisory Committee Meeting #6 (Bridges)	April 26, 2016
Technical Advisory Committee Meeting #7	June 28, 2016
Technical Advisory Committee Meeting #8 (Overhead Bridges on Lakeshore West)	August 5, 2016
Technical Advisory Committee Meeting #9	August 30, 2016
Technical Advisory Committee Meeting #10	September 28, 2016
Toronto Community Housing	November 3, 2016
Technical Advisory Committee Meeting #11	November 4, 2016
Fort York Historic Site	November 14, 2016
Toronto Cultural Heritage Meeting #2	January 1, 2017
Union Station Heritage Coordination Meeting #1	April 4, 2017
Technical Advisory Committee Meeting # 12	April 24, 2017
Union Station Heritage Coordination Meeting #2	May 2, 2017

Technical Advisory Committee Meeting #1

During this meeting, Metrolinx provided City of Toronto staff with a general overview of the project and an expected timeline and milestones.

Technical Advisory Committee Meeting #2

This meeting provided a general overview of the project including the scope of work, project components, and how the Project fits into the overall RER plan. An overview of the TPAP process was also provided, detailing where the Project currently stands and future steps. Metrolinx provided an overview of all recommended TPF sites within the City of Toronto and presented the criteria that informed their evaluation.

Technical Advisory Committee Meeting #3

The purpose of this meeting was to discuss overhead bridges within the City of Toronto along Metrolinx corridors proposed for electrification. This included discussion on what bridges would be impacted by

electrification and the types of impacts to expect. An overview of protocols for carrying out heritage studies on bridges in order to identify where special considerations are needed was provided. A brief overview of Union Station clearance issues was discussed along with an update on TPFs within the City of Toronto.

Don Yard Workshop

This meeting was held in conjunction with staff from the City of Toronto, TRCA, and the Waterfront Secretariat. The purpose of this meeting was to discuss the various projects occurring within the Don Yard area and discuss a joint strategy on addressing electrification and Lakeshore East Corridor issues. TRCA Staff noted that the proposed Don Yard site was currently located in a floodplain and there were limitations on what could be built on those lands. City of Toronto Staff noted that the alignment of the Broadview extension had not yet been finalized, but could possibly conflict with two of the proposed Don Yard PS locations. Metrolinx stated that there was potential to create an access road off of the future Broadview extension to a potential Don Yard PS site.

City of Toronto and Toronto Transit Commission Joint Meeting

Metrolinx met City of Toronto and Toronto Transit Commission (TTC) staff to discuss different components of the Barrie Rail Corridor Expansion EA. During the meeting, a brief overview of the Electrification Project was provided and it was noted that assessments and property requirements would be coordinated between the various TPAPs. In addition, Metrolinx confirmed that the TPAP will be examining all bridges with regards to heritage value. Metrolinx was in the process of preparing an inventory of the ownership of bridges along the Barrie Corridor and their relation to the sharing of structures.

Toronto Cultural Heritage Meeting #1

The purpose of this meeting was to establish a strategy to address cultural heritage resources on the GO Rail Network Electrification TPAP and Lakeshore East Corridor Expansion project. An overview of different components of the Lakeshore East Corridor Expansion project was provided, including improvements to identified properties and projected timeline of the Project. This was followed by an overview of the Electrification Project, including an explanation of project infrastructure. Metrolinx outlined the Cultural Heritage Screening and Cultural Heritage Evaluation Report process to be undertaken for electrification. This was followed by a proposed Heritage process for Jointly Managed Bridges. The meeting concluded with an overview of the Electrification Project schedule and next steps.

Technical Advisory Committee Meeting #4

This meeting reviewed bridge structures on the USRC, Lakeshore East Corridor, and Stouffville Corridor impacted by electrification and established what Metrolinx would be proposing for these bridges. Metrolinx explained that all new bridges must meet 7.4 m vertical clearance requirements and where possible, OCS wires will run under existing bridges without attachments. If existing clearance is not adequate, attachments such as bridge arms will be required to support the OCS. Metrolinx explained that flash plates help protect from electrical discharge (flash over) from the OCS to the concrete soffit, and

provided the requirements for bridge barriers and where they would be required. When asked by the City of Toronto if Metrolinx was open to using alternatives to barriers (e.g., shrouds over wires), Metrolinx explained that they were not suitable for Canadian weather conditions as they could accumulate ice and snow. Metrolinx concluded the meeting with an overview of the specific bridges located on each corridor and what site impacts may occur. City of Toronto staff identified some concerns and unique characteristics of bridges such as heritage features and surrounding development projects that may affect how the bridge is approached for the Electrification Project.

Technical Advisory Committee Meeting #5

The purpose of this meeting was to review bridge structures on the Kitchener and Barrie Corridors impacted by electrification, and establish what Metrolinx was proposing for these bridges. Metrolinx explained the vertical clearance requirements, OCS infrastructure, and safety issues already provided in TAC Meeting #4. City staff stated they would prefer transparent bridge barriers and would like to be part of the design process prior to issuing the RFP. Metrolinx noted they would appreciate input from the City and requested that the City notify Metrolinx where special considerations would be required. Metrolinx concluded the meeting with an overview of the specific bridges located on each corridor and what site impacts may occur. City of Toronto Staff identified their concerns and unique characteristics such as access to utility infrastructure that may affect how the bridge is approached for the Electrification Project.

Technical Advisory Committee Meeting #6

This meeting reviewed bridge structures on the Lakeshore West Corridor likely impacted by electrification, and established what Metrolinx was proposing for these bridges. Metrolinx provided a brief overview of the Electrification Project and how it fits into the Province's RER plan, as well as an overview of the specific bridges located on each corridor and what site-specific impacts may occur. Metrolinx noted that in some cases, they would need to determine the cultural heritage value of the bridge through producing a CHER. City of Toronto staff informed Metrolinx that the Alternative Financing and Procurement (AFP) process was currently in progress for the Gardiner Expressway. All existing overpasses will be replaced, new decking will be required on elevated portions, and re-grading of existing alignments will occur. This will require future coordination between Metrolinx and the City.

Technical Advisory Committee Meeting #7

The purpose of this meeting was to provide an update on the Electrification Project to City staff and discuss the next steps regarding a variety of topics. The meeting began by providing a brief summary on the first round of public meetings and an overview of the different environmental studies by discipline to be included in the EPR. The six TPS and Tap locations that will be located within The City of Toronto were discussed, including potential issues surrounding the sites. Metrolinx assured City of Toronto staff that they would prefer not to move hydro infrastructure around the Scarborough 27.5 kV feeder route. When asked how this would then fit in with OCS infrastructure, Metrolinx stated that existing poles can be vertically extended to accommodate both OCS and feeder route infrastructure.

With regards to cultural heritage, Metrolinx stated that they were hoping to set up a meeting in July 2016 to discuss the feasibility report for the Dunn/Dowling/Dufferin/Jameson bridges and share with City staff to ensure that the approach is going in the right direction. Metrolinx acknowledged that the heritage strategy for Union Station would be a unique process, they will be doing 100% detailed design for Union Station, and will complete a detailed HIA (the TPAP will only be conducting a high level HIA).

City of Toronto staff requested that information and input from Metrolinx regarding the West Toronto Railpath be provided before they commence detailed design. In addition, City staff would like to have a meeting in future to discuss Metrolinx's plans with regards to the West Toronto Railpath. Metrolinx concluded the meeting by providing a summary of next steps and future TAC meetings to be held with the City of Toronto.

Technical Advisory Committee Meeting #8 - Overhead Bridges on Lakeshore West

On August 5, 2016, Electrification Project staff met with the City of Toronto to discuss bridge concepts developed to-date, coordinate this work with the City of Toronto, and ask for feedback and input toward a comprehensive approach and feasible solution. Specifically, Metrolinx sought City feedback, from a technical standpoint, on the preferred approaches for each bridge as presented at the meeting, in order to advance the feasibility study and for agreement in principle to advance the ongoing EA. The four bridges discussed were the Dunn, Dowling, Dufferin, and Jameson Bridges, and the City provided information on the current condition and constraints of each bridge. An overview of potential issues associated with drainage was also provided.

Technical Advisory Committee Meeting #9

The purpose of this meeting was to provide an update on the Electrification Project to City of Toronto staff on a variety of topics. Planning for the second round of public meetings and the continued consultation efforts with other municipal, provincial and federal agencies was discussed. Electrification Project staff provided updates on the impact assessment studies and mitigation plans including discussions on expected vegetation removals, the tree compensation policy developed jointly between Metrolinx and Toronto and Region Conservation Authority and information on the noise modeling that was carried out. Information on the finalization of various conceptual design elements of the Project (bridge modifications etc.) and PSOS documentation was also provided. Comments on vegetation removal maps distributed to City of Toronto staff were requested. Provision of a list of interests/aspects that the City would like to review regarding PSOS involvement was also requested.

Technical Advisory Committee Meeting #10

The purpose of this meeting was to update City of Toronto Staff on the Electrification Project. At this meeting Metrolinx staff sought to provide an update and gain feedback on the noise modeling and noise assessment work completed to date. Comments on the vegetation removal mapping distributed at the previous Technical Advisory Committee meeting were requested. Information on the second round of public meetings was also provided. In addition, the Union Station Rail Corridor East Expansion Environmental Assessment project was introduced.

Toronto Community Housing

On November 3, 2016 Metrolinx and Toronto Community Housing staff met to discuss a number of Metrolinx projects within the City, including electrification. An overview of projects outside the scope of the GO Rail Network Electrification Project was provided and included the USRC East Enhancements Project. Metrolinx provided Toronto Community Housing staff with an overview of the scope of the electrification project, the work to date, including notifying staff of the November 2016 Public Meetings and project timeline.

Technical Advisory Committee Meeting #11

The purpose of this meeting was to provide an update on the Electrification Project to City of Toronto staff and discuss the next steps regarding a variety of topics. Metrolinx provided information on the two types of protection barriers (horizontal barriers and bridge barriers) required to protect pedestrians and travelers/infrastructure using walkways and bridges along USRC. Drawings and photos of typical and horizontal barriers were shown along with a list of the locations in which horizontal barriers are required along USRC. City staff requested updated examples of bridge barrier options (e.g. materials, design etc.) and noted desire to be involved in the Design Excellence process. Metrolinx noted that recommendations from Design Excellence will be shared with the City and additional Typical Bridge Barrier Drawing will be included in the Environmental Project Report for review.

Metrolinx provided an update on the timeframe of when City staff could expect to receive the 95% draft of the Environmental Project Report as well as an explanation of all the documentation to be included for review. The agenda of the November Public Meetings and a brief overview of the materials that were presented was shared with City staff.

Fort York Historic Site

On November 14, 2016 Metrolinx provided City of Toronto staff involved in the management of the Fort York Historic site with a letter introducing the GO Rail Network Electrification project as well as a description of the infrastructure required in the vicinity of Fort York. Feedback was requested. A meeting was subsequently requested by Fort York to discuss the project via email on November 21, 2016. On November 24, 2016 a meeting was held between Metrolinx, City of Toronto staff involved in the management of the Fort York Historic Site and staff of the Canadian Urban Institute. Details on the project scope, infrastructure requirements and bridge modifications required in the vicinity of Fort York, tree/vegetation removal requirements and project schedule were presented. Metrolinx provided explanation of the difference between the current electrification project and the previously completed UP Express TPAP.

Fort York staff noted the location of a cemetery (Fort York – Strachan Avenue Military Cemetery) within the fort and of trail connections planned in relation to the future Fort York Pedestrian Bridge. Fort York staff also noted that there is a planned and funded pedestrian trail to be built where gantries are required on the LSW corridor. The trail is to link Fort York to CityPlace at Bathurst. Metrolinx noted that due to the

trail, special fencing requirements with non-accessible type fencing may be needed in the area. This requirements will be determined during Detail Design.

Toronto Cultural Heritage Meeting #2

On January 10, 2017 Metrolinx meet with City of Toronto heritage staff. The purpose of this meeting was to provide a project update on the heritage work since the previous March 29, 2016 meeting. Proposed modifications to jointly owned/managed properties such as heritage bridges and removal of pedestrian bridges was discussed. An overview of the Cultural Heritage Screening process undertaken for Electrification was provided and the Cultural Heritage Evaluation Reports (CHERs) and Heritage Impact Assessments (HIAs) completed to date were reviewed. It was noted that a strategy will be developed for Metrolinx and the City of Toronto to work together on proposed modifications to jointly-owned heritage bridges. City of Toronto advised that discussions with the City should begin as soon as possible if the Wallace Pedestrian Bridge requires replacement.

It was noted that all completed CHERs will be sent to the City along with the Statements of Cultural Heritage Value. Metrolinx advised that an HIA had been completed for the Union Station Train Shed and was sent to the City of Toronto. The City requested the report be sent again. Completed CHERs and the Union Station Train Shed HIA were sent to the City via courier as part of the draft EPR submission on January 18, 2017. Electronic copies of the electrification roll plans were provided to the City of Toronto as requested following the meeting.

The meeting concluded with an overview of the Electrification Project schedule, notice of the draft EPR to be sent to the City for review, and next steps.

Union Station Heritage Coordination Meeting #1

The purpose of this meeting was to discuss and coordinate proposed project works at Union Station including the Electrification Project with the various project teams. An overview of the Electrification OCS infrastructure requirements at Union Station was provided. It was noted by Metrolinx that the OCS infrastructure at Union Station will require special design considerations. Heritage assessment work was discussed. Metrolinx advised that as part of the Electrification TPAP documents had been provided to Parks Canada for review and that comments had been received from Parks Canada regarding heritage aspects at the Union Station trainshed. It was agreed that a monthly meeting between all parties should be held to allow for sharing of information and coordinating work where applicable.

Technical Advisory Committee Meeting #12

The purpose of this meeting was to provide an update on the Electrification Project to City of Toronto staff and discuss the next steps regarding bridge agreements and electrification infrastructure design. It was confirmed that there will be bridge agreements established to deal with maintenance responsibilities for all bridges throughout the GO network. A discussion regarding bridge shrouds was held in response to a comment received from the City of Toronto on December 2, 2016. The potential safety, maintenance, and cost issues associated with the use of horizontal bridge shrouds were discussed. Due to the issues

presented it was noted that bridge shrouds would not be used as part of the project. The Metrolinx developed standard for structures passing over electrified corridors was presented. The standard was shared with the City via email on June 13, 2017.

It was noted that Electrification infrastructure design guidelines will be developed for the traction power facilities, bridge barriers and for OCS station integration. The coordinated process for developing the design guidelines in consultation with municipalities including the City of Toronto and community stakeholders was discussed. To facilitate bridge barrier design Metrolinx developed five bridge categories, a summary categorizing all the bridges within the study area was provided to the City of Toronto. Metrolinx requested input from the City on the preferred bridge barrier solution for each bridge within Toronto's jurisdiction. The meeting concluded with an overview of the project schedule and next steps.

Union Station Heritage Coordination Meeting #2

This meeting was a follow-up meeting to the April 4, 2017 meeting. The purpose of this meeting was to continue discussions on coordinating project works at Union Station.

1.2.5.4 Conservation Authorities

1.2.5.4.1 Toronto and Region Conservation Authority (TRCA)

A meeting was held with the TRCA on July 12, 2016, which began by providing TRCA staff with a brief overview of the scope of the Electrification Project and the different project components such as the OCS and TPFs. Metrolinx next discussed the requirements surrounding vegetation and tree removal around the corridor, which is done to ensure that no vegetation encroaches on infrastructure thus affecting safety and operation. Metrolinx stated that the clearing zone will encompass 7 m from the centre of the outermost track and provided a diagram depicting how this may look in a typical scenario.

One of the major issues brought up by Metrolinx are the complications surrounding tree removal on private properties. Metrolinx acknowledged several of the challenges relating to vegetation removal, including consultation with property owners, rights of access to address vegetation issues, and reputational risks surrounding removal of trees on their properties. Electrification Project team members outlined their methodology for assessing tree removal and presented their draft mitigation strategy for addressing the assessed risks. In particular, Metrolinx noted that tree replacement recommendations will be established in accordance with the relevant Conservation Authority(s) guidelines (as appropriate) and will be implemented during detailed design and construction. The meeting concluded by providing a summary of the next steps and a timeline for major milestones for the Electrification Project EA.

Tree Compensation Strategy Meeting #1

A meeting was held by Metrolinx and Toronto and Region Conservation Authority on September 9, 2016 to introduce municipalities to the joint work being carried out by Metrolinx and TRCA on a strategy for tree compensation. All municipalities within the Study Area were invited to attend. Representatives from

the cities of Brampton, Markham, Toronto and Vaughan were in attendance. Presentations were given by both Metrolinx and TRCA.

Metrolinx introduced the objective of the meeting. Metrolinx currently complies with individual city by-laws for tree removal and compensation, requiring permits from municipalities for each property impacted. Given the magnitude of future projects, Metrolinx is looking to establish a standardized protocol for vegetation removal/compensation that will be applied across the entire Metrolinx system for all Metrolinx infrastructure projects going forward. The objective is to develop a standardized approach for tree/vegetation removal compensation for linear trees on private or municipal property, right of way trees on Metrolinx owned corridor, and ecosystem trees that are part of productive or sensitive systems (wetlands, regulated areas etc.). The intent of the meeting was to seek municipal input on developing the strategy and meeting the objectives as outlined above for linear trees on private property and right of way trees on Metrolinx property.

TRCA provided the municipalities with an overview of TRCA's current relationship with Metrolinx and the existing Service Level Agreement. TRCA provided information on a draft compensation protocol they have been working on and that was put out to municipalities for comment last year. It is Metrolinx's intent to use this draft protocol for compensation of ecosystem tree removals.

Municipalities provided information on their current tree removal by-laws and compensation policies to assist with brainstorming the strategy. General support was shown for a graduated/tiered approach to individual linear tree compensation. Metrolinx noted that currently there are no requirements for Metrolinx to compensate for trees removed within their right-of-way as the land is provincially owned, Metrolinx however acknowledges that removal will impact canopy cover and would like to undertake some community planting/enhancement projects to compensate for some loss. Metrolinx requested that municipalities provide them with lists of any specific community enhancement projects that the municipalities would like to see carried out.

Municipalities were made aware that TRCA is to host a workshop on October 11, 2016 with all municipalities and Conservation Authorities within the Metrolinx network. The draft strategy put together by TRCA and Metrolinx based on the September 9, 2016 meeting discussions and review of all municipal by-laws is to be presented at the October 11, 2016 TRCA workshop. Municipalities were asked to provide any relevant by-laws or compensation strategies to assist in the creation of the draft approach.

Tree Compensation Strategy Meeting #2

A meeting was held by Metrolinx and Toronto and Region Conservation Authority on October 11, 2016 to update municipalities on the joint work being carried out on the strategy for tree compensation for all Metrolinx infrastructure projects. All municipalities within the Study Area were invited to attend. Representatives from Conservation Halton, Region of Halton, City of Burlington, Town of Oakville, CVC, City of Mississauga, TRCA, Region of Peel, City of Brampton, Region of York, City of Toronto, City of Vaughan, City of Markham, Town of Whitchurch-Stouffville, Region of Durham, City of Pickering, Town of

Ajax, CLOCA, Town of Whitby, City of Oshawa, LSRCA, Town of Newmarket, Town of Bradford-West Gwillimbury, Town of Innisfil, and Township of King were in attendance. The meeting was broken into a morning session with presentations and open discussions and an afternoon session with presentations, a question and answer period and a workshop session.

The intent of the meeting was to seek municipal input on finalizing the compensation strategy. Metrolinx introduced the objective of the meeting and the purpose of a network wide compensation strategy. TRCA provided attendees with an overview of TRCA's current partnership with Metrolinx, and the current limitations of compensation achieved through local municipal policies, conversation authority permits, environmental studies etc. Limitations including lengthy negotiations, lack of consistency, lack of transparency and a lack of strategic site selection methods of restorations. The intent of the compensation strategy is to provide clarity and standards for when determining how to compensate.

Conservation Authorities and Municipalities in attendance provided information on their jurisdictions respective compensation policies/approaches. The draft compensation guideline was presented by TRCA.

1.2.5.4.2 Halton Region Conservation Authority (HRCA)

A meeting with HRCA was held on August 3, 2016, with Electrification Project team members providing similar information on the project components, vegetation clearance, and draft mitigation strategy as was provided to TRCA.

HRCA staff stated that grading/excavations for OCS installations will not allow significant fill to be added around watercourses. Metrolinx stated that existing floodplains will be considered. The HRCA Regulated Area was requested in Geographic Information Systems (GIS) format and was subsequently received by the Electrification Project Team for incorporation into the Natural Environment Impact Assessment Report mapping.

1.2.5.4.3 Central Lake Ontario Conservation Authority (CLOCA)

The Electrification Project team had a teleconference with CLOCA on August 3, 2016 to provide similar information on the project components, vegetation clearance, and draft mitigation strategy as was provided to TRCA.

CLOCA staff asked about how floodplains were considered with respect to TPFs, specifically regarding the ERMF. Metrolinx responded that existing floodplains are being considered in the design and the Tap/Traction Power Facilities will be built such that the finished floor (and hence all equipment) will be set at a minimum above the 100-year floodplain. For flood-proofing of sites, the facilities will be built 0.3m above the floodplain. Best practices for site access will be implemented during construction and operations. Additional more detailed SWM analyses will be undertaken as part of detailed design, and relevant Conservation Authorities will be further engaged in this process as appropriate.⁵ CLOCA staff informed Metrolinx that bank swallows are actively nesting at the ERMF construction site, and that several

⁵ Based on further design/engineering work completed, please refer to Volume 1, Section 3.4.4 for further detail.

species have been observed in the wetland south of the rail corridor. The Electrification Project Team were already aware of these issues, and mitigation has been developed as part of the Draft Natural Environment Impact Assessment Report.

1.2.5.4.4 Lake Simcoe Region Conservation Authority (LSRCA)

A meeting was held with LSRCA on August 9, 2016 to provide similar information on the project components, vegetation clearance, and draft mitigation strategy as was provided to TRCA. In addition, an overview of the Natural Impact Assessment was provided.

LSRCA staff noted that there are a number of Ash Trees (and other species) that are in distress along the corridor and inquired if they would be removed if they posed a potential concern. Metrolinx stated that they would take this into consideration and noted that a full tree inventory along the corridor would take place in the detailed design stage. When LSRCA inquired about the potential effects of birds landing on OCS wires, Metrolinx stated that these wires were not a concern for wildlife as they would need to be simultaneous in contact with the ground at the same time in order to be shocked.

LSRCA staff stated that the Provincial Policy statement does not permit development within a floodplain and asked how this would affect proposed TPFs. Metrolinx noted that TPFs are not subject to these prohibitions. In addition staff noted that the Tap/Traction Power Facilities will be built such that the finished floor (and hence all equipment) will be set at a minimum above the 100-year floodplain. For flood-proofing of sites, the facilities will be built 0.3m above the floodplain. Best practices for site access will be implemented during construction and operations. Additional more detailed SWM analyses will be undertaken as part of detailed design, and relevant Conservation Authorities will be further engaged in this process as appropriate.⁶ No anticipated environmental impacts will result from the placement of TPFs in a floodplain. Metrolinx will be conducting Stormwater Management Assessment for each TPF site that will involve engaging conservation authorities as required.

1.2.5.4.5 Credit Valley Conservation (CVC)

A meeting was held with CVC on August 31, 2016 to provide similar information on the project components, vegetation clearance, and draft mitigation strategy that was provided to TRCA. An overview of the Natural Environment Impact Assessment was additionally provided.

CVC staff asked if sensitive environmental features had been mapped within the Project Study Area. Metrolinx noted that the Natural Environment Impact Assessment Report maps and identified sensitive environmental features such as Provincially Significant Wetlands and Areas of Natural and Scientific Interest. CVC staff also inquired about whether Species at Risk has been considered as part of the natural environment assessment and mitigation strategy. Metrolinx noted that Species at Risk data was obtained from the Ministry of Natural Resources and Forestry as well as local conservation authorities including

⁶ Based on further design/engineering work completed, please refer to Volume 1, Section 3.4.4 for further detail.

CVC for inclusion in the assessment report. The Natural Environment Impact Assessment Report identifies potential impacts to Species at Risk along with associated mitigation requirements.

1.2.5.5 Other Stakeholders

1.2.5.5.1 Third Party Utility Owners

Initial Contact for Utility Information & Introductory Teleconference/Meetings

Correspondence with third party utility owners/municipalities and regional authorities was initiated through a formal letter providing an overview of the project and an explanation of the data required (buried utilities, overhead utilities, future utilities planned to the 2025 build out horizon). Each letter contained a series of figures depicting the portions of the project Study Area falling within the recipient's jurisdiction. Thereafter, teleconferences were held with recipients to follow up on the data requests and address any questions that had arisen from the initial correspondence. For municipal bodies and regional authorities, some follow-up teleconferences were replaced with in person introductory meetings that were held in conjunction with Metrolinx's TPAP team. Initial correspondence was sent to 51 utility owners.

Correspondence with utilities along the Barrie Corridor was not undertaken by the electrification team as a concurrent utility study within a 100m swathe of the Barrie Corridor (Mile 1.35 (Parkdale Junction) to Mile 63.0 (Allandale Waterfront)) was undertaken by another Metrolinx project team as part of a separate Metrolinx project. **Table 1-11** provides a log of the meeting dates with the third party utilities/municipalities. A record of all correspondence and meetings with utility owners including municipalities and regional authorities is provided in **Appendix I**.

Conflict Identification Meetings/Teleconferences & Follow-up

Meetings or teleconferences were held with utility owners including municipalities and regional authorities identified as having potentially impacted utilities in the project Study Area. An overview of the project was provided in addition to a review of any prior initial contact teleconference/meeting and the status of the requested utilities information. Utility owners were given an overview of the methodology used to determine a conflict utility and information on the utilities in their jurisdiction identified as being potentially impacted. Project design and construction options were discussed at each meeting as an initial discussion on impact mitigation. A request to set up regular meetings with each utility owner was made. Meetings were held in conjunction with Metrolinx's TPAP team. **Table 1-11** provides a log of the conflict identification meetings held with the third party utility owners.

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



Table 1-11: Third Party Utility Owner Teleconference/Meeting Log

Utility/ Municipality	Conflict Identified	Non-conflicted	Initial Contact for Utility Information	Introductory Teleconference/ EA Regional Meeting	Conflict Identification Meeting/ Teleconference	Follow up Meeting/ Teleconference for Conflict Identification
Allstream	Y		9-Oct-15		13-Oct-16	
Beanfield	Y		30-Oct-15		19-Oct-16	
Bell	Y		9-Oct-15		19-Oct-16	19-Jan-17
Bell 360		Y		15-Dec-15		
Bell Mobility		Y	8-Feb-16		6-Dec-16	
Bombardier		Y			8-Dec-16	
Bonar Rosedale Plastics		Y				
Burlington Hydro	Y		2-Oct-15	25-Nov-16	14-Sep-16	2-Jun-17
CGC		Y				
City of Barrie	Y		8-Apr-16		1-Nov-16	
City of Brampton		Y		11-Dec-15		
City of Burlington		Y	2-Oct-15	15-Dec-15	7-Dec-16	
City of Markham	Y		2-Oct-15	16-Dec-15	4-Oct-16	
City of Mississauga		Y	29-Oct-15		7-Dec-16	
City of Oshawa		Y		18-Nov-15		
City of Pickering		Y	2-Oct-15	19-Nov-15	3-Feb-17	
City of Toronto	Y		9-Oct-15		26-Aug-16	
City of Vaughan		Y	8-Apr-16	16-Dec-15	7-Dec-16	
Cogeco Cable	Y		20-Nov-15		13-Oct-16	
Cogeco Data	Y		29-Oct-15		11-Oct-16	
Digital Outdoor Network Co		Y		21-Dec-16		
DND		Y	9-Nov-16		22-Nov-16	
Durham Region	Y		2-Oct-15	18-Nov-15	30-Sep-16	19-Dec-16
Enbridge Gas	Y		5-Nov-15		14-Oct-16	
Enbridge Pipelines	Y		9-Oct-15	3-Dec-15	20-Oct-16	
Enersource	Y		29-Oct-15	13-Nov-15	14-Sep-16	18-Jan-17

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Utility/ Municipality	Conflict Identified	Non-conflicted	Initial Contact for Utility Information	Introductory Teleconference/ EA Regional Meeting	Conflict Identification Meeting/ Teleconference	Follow up Meeting/ Teleconference for Conflict Identification
Enwave	Y		3-Nov-15	3-Dec-15	13-Oct-16	
Goldfan Holding		Y				
Halton Region	Y		2-Oct-15	8-Dec-15	24-Oct-16	
Hawker Siddeley Canada		Y				
Hood Packaging		Y			7-Dec-16	
HRCA		Y		14-Dec-16	15-Feb-17	
Hydro One	Y		2-Oct-15	11-Dec-15	23-Sep-16/ 13-Dec-16	3-Feb-17 21-Feb-17 28-Apr-17
Imperial Oil	Y		30-Oct-15	1-Dec-15	20-Oct-16	
InnPower	Y		8-Apr-16		7-Oct-16	
Ledcor		Y				
Level 3		Y	9-Oct-15	26-Jan-16	20-Dec-16	
Maple Leaf Foods		Y				
MOECC		Y		24-Nov-16		
MTO	Y				7-Dec-16	19-Jan-17
Newmarket-Tay Power	Y		8-Apr-16	3-May-16	15-Sep-16	
Oakville Hydro	Y		2-Oct-15	15-Dec-15	8-Sep-16	1-Dec-16
OPP	Y		21-Nov-16			
OPUC		Y	2-Oct-15	10-Nov-15	19-Sep-16	
Parc Downsview Park	Y		5-Dec-16		15-Dec-16	
Peel Region	Y		2-Oct-15	11-Dec-15	29-Sep-16	6-Jul-17
Peel Region PSN	Y		29-Oct-15	11-Dec-15	31-Aug-16	
PowerStream	Y		30-Oct-15	7-Dec-15	24-Aug-16	10-Nov-16 22-Mar-17 11-May-17
Rogers	Y		4-Nov-15	27-Jan-16	13-Sep-16	

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Utility/ Municipality	Conflict Identified	Non-conflicted	Initial Contact for Utility Information	Introductory Teleconference/ EA Regional Meeting	Conflict Identification Meeting/ Teleconference	Follow up Meeting/ Teleconference for Conflict Identification
Rogers Wireless	Y		17-Dec-15		13-Sep-16	
Shaw	Y					
Sun-Canadian	Y		30-Oct-15		20-Oct-16	
Suncor	Y		29-Oct-15	24-Nov-15		
Telus	Y		9-Oct-15	24-Nov-15	22-Aug-16	
Telus Mobility		Y	7-Jan-16		6-Dec-16	
Toronto Hydro	Y		9-Oct-15	14-Oct-15 8-Nov-15 11-Feb-16 23-Feb-16 21-Apr-16 8-Jun-16		
Town of Ajax		Y		26-Nov-15		
Town of Aurora		Y			7-Dec-16	
Town of Bradford W. Gwillimbury		Y			7-Dec-16	
Town of East Gwillimbury		Y			10-Mar-17	
Town of Innisfil		Y	8-Apr-16		7-Dec-16	
Town of Newmarket	Y		8-Apr-16		28-Sep-16	
Town of Oakville	Y		2-Oct-15	8-Dec-15	7-Dec-16	
Town of Whitchurch- Stouffville	Y		3-Nov-15	16-Dec-15	4-Oct-16	
Township of King	Y			16-Dec-15	27-Oct-16	
TransCanada	Y		29-Oct-15		26-Oct-16	
Trans-Northern	Y		29-Oct-15		20-Oct-16	
TTC	Y		29-Oct-15	14-Jan-16 24-Feb-16	5-Oct-16	18-Feb-17
Union Gas	Y		29-Oct-15	10-Dec-15	25-Oct-16	14-Dec-16

Utility/ Municipality	Conflict Identified	Non-conflicted	Initial Contact for Utility Information	Introductory Teleconference/ EA Regional Meeting	Conflict Identification Meeting/ Teleconference	Follow up Meeting/ Teleconference for Conflict Identification
Urban Outdoors Inc		Y				
Veridian	Y		29-Oct-15		20-Sep-16	19-Dec-16 13-Mar-17
Videotron		Y	5-Nov-15			
Weston Golf and Country Club		Y			10-Mar-17	
Whitby Hydro	Y		5-Nov-15	24-Nov-15	23-Sep-16	13-Mar-17
Woodbine Entertainment		Y	2-Oct-15	8-Dec-15	7-Dec-16	
York Region	Y		30-Oct-15	16-Dec-15	4-Oct-16	
York Telecom Network	Y		30-Oct-15	16-Dec-15	15-Sep-16	

1.2.5.5.2 Toronto Hydro

Meeting – July 28, 2016

During this meeting, Electrification Project staff met with Toronto Hydro to review hydro utility conflict findings and discuss next steps to initiate an examination of solutions for the Electrification Project as it relates to the RER corridors. Toronto Hydro staff stated that they cross-referenced information provided by Electrification Project staff to identify potential conflicts between Toronto Hydro infrastructure and proposed electrification infrastructure. In total, about 230 conflicts were identified by Toronto Hydro staff, though there may be potential to reduce the amount of conflicts further as project details are further developed. Metrolinx indicated that bridge barrier design will take into account Toronto Hydro infrastructure maintenance requirements.

Metrolinx stated that they will provide existing crossing agreements and will attach these to the existing conflict list. Metrolinx then requested that Toronto Hydro staff review the list of potential conflicts and identify the level of risk for each (High, Medium, Low). Metrolinx stated that a list of prioritized conflicts should be provided by August, 2016.

1.2.5.5.3 NavCanada/Greater Toronto Airports Authority (GTAA) – February 1, 2017

On February 1, 2017 Metrolinx staff meet with NavCanada and Greater Toronto Airports Authority staff to provide an overview of the Electrification TPAP scope and project components, the structure of the draft EPR report and technical appendices, and the project schedule. This meeting also provided an opportunity to discuss any airport concerns including active noise impacts from electrification.

It was noted that Metrolinx should be mindful not to increase the level of background RF noise levels that would compromise S/N & SINAD characteristics of the NavCanada ground receivers, due to imposed ICAO & Transport Canada limits.

The primary points of contact at GTAA and NavCanada were confirmed, and updated contact information was provided to Metrolinx for NavCanada.

1.2.5.5.4 Newmarket-Tay Power Distribution – May 3, 2016

During this meeting Metrolinx provided an overview of electrification and the TPAP process, as well as the consultation/outreach approach. The first round of public meetings were discussed, and Newmarket hydro was made aware that the display materials were available online or in pdf and could provide them upon request. Metrolinx identified the proposed locations of the TPFs and a description of the proposed system including line voltages. A detailed description of the Newmarket SWS was provided including some description on future capabilities and flexibilities. Newmarket-Tay Hydro noted that they would not oppose the current site should the Town of Newmarket also provide approval. They also noted that the electrification project should be included into the Regional Supply Plan for York, that the SWS site would be discussed at the meeting with the Town of Newmarket tentatively scheduled for May 18, 2016, that a draft Permission to Enter for the SWS site would be drafted. Issues regarding clearances for utilities which cross may have some conflicts and require further discussions and investigation. Metrolinx confirmed that investigation and discussions were underway. It was noted that a storm water retention pond was located on the proposed site, and the pole spacing for gantries was inquired about for which Metrolinx provided the distance.

1.2.5.5.5 Toronto Transit Commission (TTC)

A meeting was held with TTC staff on February 24, 2016 to present project components and garner feedback. TTC staff noted that they are in the preliminary stages of developing concept design and feasibility studies for a future maintenance facility. One option for this facility may have the potential to affect the proposed Mimico TPS site. At this point in time, TTC staff are not sure if this portion will be tunneled or at-grade. A discussion regarding property acquisition and access requirements occurred during this meeting. Metrolinx stated that they will provide TTC staff with a copy of the EPR and a copy of the July TAC slide deck that shows the most up-to-date TPF locations (this was sent to the TTC on July 25, 2016). TTC staff stated that they will keep Metrolinx informed on potential acquisition of the Canadian Pacific property.

A second meeting was held with TTC on July 25, 2016 to discuss options for TTC for their new proposed maintenance facility in the vicinity of the proposed Metrolinx Mimico TPS. TTC noted they were in the

early stages of planning and that no information on construction timing for the new Maintenance Facility is available as of yet.

1.2.5.5.6 VIA Rail – June 13, 2016

The purpose of this meeting, held on June 13, 2016, was to provide VIA Rail with an overview of the Electrification Project and address any preliminary concerns. Metrolinx staff began the meeting by providing a summary of the scope of the project, including where electrification will occur and a description of the different project components such as the TPFs and OCS. Metrolinx explained that the system was being designed so that clearance would allow for double-stacked freight to operate on the electrified tracks. VIA Rail stated that crews will need to be taught what to do in the event of an emergency, for example if they need to enter the rail corridor. VIA Rail staff also had concerns regarding the clearance within the Union Station train-shed, and Metrolinx responded by stating that there are engineering solutions that are being developed to address this without alterations to the train-shed or tracks. Metrolinx discussed the expected impacts at the VIA Maintenance Facility, including what structures may need to be grounded and where track joints would need to be insulated. Metrolinx concluded the meeting by providing VIA Rail staff with an expected timeline of project milestones.

1.2.5.5.7 Hydro One

Hydro One Networks Inc. Meeting – December 1, 2015

The purpose of this meeting was to achieve conceptual approval of the proposed Metrolinx preferred method to connect TPSs with the accompanying Hydro One network routing and Tap locations and address any concerns in order to advance the electrification design. This involved reviewing the steps in the TPAP, with special focus on the property site selection process. During the meeting, roles and responsibilities between Metrolinx and Hydro One Networks Inc. (HONI) were outlined with regards to HONI's role as co-proponent of the TPAP and requirements for different TPF sites were discussed.

Hydro One Networks Inc. Meeting – February 25, 2016

The purpose of this technical meeting was to introduce the Project and provide a preliminary overview of the scope of work. After discussing initial safety requirements, details were provided for the model parameters of the 230kV network. The proposed substation locations were identified and discussed along with the 230kV tapping points and their requirements.

Hydro One Networks Inc. Meeting - September 1, 2016

The purpose of this meeting was to confirm that HONI had received all available baseline conditions and impact assessment reports ready for HONI review and to provide an update on the status of any outstanding reports to be provided to HONI. An update on the status of the EA Co-Proponency Agreement

between Metrolinx and HONI was also provided. In addition HONI roles and responsibilities regarding First Nations and stakeholder consultation was discussed.

1.2.5.5.8 Ontario Power Generation (OPG)– November 29, 2016

Ontario Power Generation (OPG) requested a meeting with Metrolinx via email. A meeting was held with OPG on November 29, 2016 to discuss the Metrolinx vision for broader electrification and potential partnerships with OPG. This discussion was not related to the GO Rail Network Electrification TPAP. Moving forward, OPG will be working with other departments within Metrolinx to discuss these issues.

1.2.5.6 Summary of Review Agency Comments Received

Table 1-12 summarizes all issues/comments/questions raised by review agencies as part of the Pre-Planning Phase, including the February/March 2016 Public Open Houses, and how they were considered by Metrolinx. Correspondence received from review agencies can be found in **Appendix L-9 to Appendix L-11**.

Table 1-12: Summary of Pre-Planning Phase Review Agency Comments Received

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
FEDERAL AGENCIES			
Parks Canada	Pre-Planning	Request to set up meeting regarding the train shed roof and potential for considering mitigation measures that might be required as a result of the Electrification Project.	Comment noted, and Metrolinx reached out to set up a meeting with Parks Canada.
Biofuel Consulting (On Behalf of Natural Resources Canada)	Pre-Planning	An NRCan study is reviewing the “Rail Transportation by Hydrogen vs. Electrification Case Study for Ontario Canada” (2010) and detail of the Electrification Project would be helpful for the Government of Canada.	<p>Project information was sent in document form and through links to the Electrification and Metrolinx Engage websites.</p> <p>In addition, it was noted that the scope of the GO Rail Network Electrification TPAP does not entail an examination of ‘alternatives to’ electrification (e.g., alternative fuel sources) but rather, in accordance with <i>Ontario Regulation 231/08</i>, the TPAP will assess the potential environmental effects of converting the GO Transit system from a diesel based to an electric based system.</p> <p>Metrolinx requested further information on the request for its participation in the study related to identifying potential for using alternative fuels in marine, rail, aviation.</p>
Canadian Environmental Assessment Agency	Pre-Planning	Request to ensure that the Electrification Project is not described in the Canadian Environmental Assessment Act, 2012 (CEAA 2012) Regulations. If the project is not subject to a federal environmental assessment, please remove the Canadian Environmental Agency from the distribution list.	Comments noted, and Metrolinx confirms that the Electrification Project does not trigger a federal EA. The Agency has been removed from the distribution list.
PROVINCIAL AGENCIES			
Ministry of the Environment and Climate Change	Pre Planning	Recommendation to add the Haudenosaunee Development Institute (which represents the Haudenosaunee Confederacy Chiefs Council) to the Stakeholder Contact List.	The Haudenosaunee Development Institute was added to Stakeholder Contact List.
		Can you give me an update on the status of this Project (i.e. proposed Notice of Commencement date, etc)?	<p>Further to our phone conversation, we are working towards beginning the formal 120day Transit Project Assessment Process (TPAP) tentatively in June along with the third round of public consultation. I will notify you once this is confirmed. The joint NOC/PIC ad I previously shared with you will be updated to reflect new NOC and PIC dates and will be shared with you once confirmed.</p> <p>We are continuing to complete our consultation efforts with stakeholders and due diligence with regulatory agencies. The Project Team is currently in the process of reviewing stakeholder comments, and drafting responses.</p>
		Wondering if you circulated the Draft to MTCS?	A full copy of the Draft EPR package including Appendices was sent to MTCS.
Ministry of Transportation	Pre Planning	An MTO encroachment permit is required for any proposed works within an MTO Right of Way (for example, if the recommendations of the study necessitate rehabilitation or replacement of any sewers that cross the Hwy. 401 corridor). Survey work and any preliminary investigative engineering work (e.g. boreholes, coring) also require MTO Encroachment Permits. For further information on encroachment permits, please refer to the following link: http://www.mto.gov.on.ca/english/engineering/management/corridor/encroach.shtml	Metrolinx will ensure that all appropriate permits are obtained during detailed design in advance of fieldwork or construction activities.
		For work which is to take place outside the MTO Right-of-Way, but within the Ministry of Transportation’s permit control area, the owner / applicant will require an MTO Building & Land Use Permit. This applies to any development, entrance, change of entrance use, building or structure within 45 metres of the provincial highway property line or within 395 metres of the centre point of an intersection or interchange with a provincial highway. In addition, construction on these lands must not commence prior to the issuance of the necessary MTO permits. Any proposed structures (above or below ground) or amenities which are essential to the viability of the site (e.g. utilities, frontage roads,	<p>Metrolinx will ensure that all appropriate permits are obtained during detailed design in advance of fieldwork or construction activities.</p> <p>A minimum setback of 3 metres (m) is typically provided from the bridge fascia to the nearest Overhead Contact System (OCS) support structure to account for varying site conditions, as well as track and OCS geometries/design requirements. Further discussion regarding the justification of a 3 m setback is provided below.</p> <p>In the event OCS structures need to be relocated in the future due to highway widening MTO and Metrolinx can work together to achieve a mutually beneficial design solution.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		fire routes, parking, storm water management ponds) must be set back a minimum of 14 metres from the highway property line. In locations where the Ministry currently has plans for future highway widening that will require additional land, the minimum 14 metre setback is to be taken from the future highway property line.	
		MTO Sign permits are required for any signs which are visible from Highway 401 and other new 400 series highways and within 400 metres of the highway property line. This requirement includes alterations or location changes of existing signage. For more information on MTO sign permits including submission requirements and application forms, please refer the applicant to the following link: http://www.mto.gov.on.ca/english/engineering/management/corridor/signs.shtml	Metrolinx will ensure that all appropriate permits are obtained during detailed design in advance of fieldwork or construction activities.
		Any of the surplus MTO land outside the corridor required for the railway can be authorized to Metrolinx with a corridor authorization.	Should Metrolinx require surplus MTO land outside the corridor for rail operation purposes, Metrolinx will ensure that a corridor authorization is obtained prior to any work commencing.
		MTO wants to review the draft EPR and tell us how long the review period is for.	A copy of the draft EPR will be provided to MTO for review in December 2016. The review period is anticipated to be approximately four (4) weeks.
		<ol style="list-style-type: none">1. The Proponent is responsible for making sure that the concrete at the location of the anchors is in good condition and protected from delamination in the future due to corrosion of existing rebars.2. The Proponent is responsible for preserving durability and future maintenance/inspection of the anchors. The existing concrete may be contaminated with chloride.3. The Proponent is responsible for making sure that future rehab of the structure will not be obstructed due to the presence of the OCS anchors.4. The Proponent is responsible to address the presence of stray current in any or all of these attachments.5. MTO had issued a policy memo limiting the use of adhesive anchors, particularly for overhead applications with sustained load.6. There is currently no approved product in the DSM for overhead applications. However, some manufacturers like Hilti have recently gone through more rigorous tests and have products that pass the most recent ICC requirements. Given the load for these anchors are relatively light, using adhesive anchor product is permissible (by calculations) provided they meet all ICC requirements and the installer has to be certified by ACI or equivalent. This is now a requirement of CSA A23.3-2014.7. The last drawing shows mechanical/expansion type anchors; MTO does not use mechanical anchors on bridges due to potential loosening under vibration and the presence of voids in the anchor.8. The Proponent is required to verify at anchor locations that the anchors installation will not damage any prestressingcables, void forms, etc.9. The Proponent is required to provide calculations to demonstrate the adequacy of retrofitting the anchor design on existing structures.	<p>Metrolinx’s Electrification project design/build contractor will comply with MTO’s requirement, through work that is in-line with MTO’s typical construction materials and requirements for the repair of deteriorated concrete/rebar.</p> <p>Metrolinx’s responsibility should be reasonably limited to dealing with the condition of those portions of the bridge where Metrolinx project-related attachments are made, and to employ material and construction requirements per a typical bridge owner’s project, toward preserving the durability and future maintenance of the work/installation. The future maintenance/inspection of the anchors would ultimately be the responsibility of Metrolinx (or their contractor), as they are required for Electrification. If there is a presence/level of chlorides in the portions of the bridge where the anchors are attached/installed, it’s probable that it’s also present in the surrounding area that’s not directly affected by the localized installation of the anchors. If so, its detection and mitigation should not be Metrolinx’s responsibility. That is, if the level of chlorides are measured and trigger the bridge owner to mitigate/repair/rehab, it will likely encompass a larger general area (if not the most of/entire</p> <p>bridge) than the location of the installed anchors, and should not be borne solely by Metrolinx. Metrolinx will negotiate an agreement with MTO to establish responsibilities for maintenance and inspections.</p> <p>The physical presence of the third-party element (e.g., Metrolinx project’s OCS anchors, utility attachment/occupancy) will undoubtedly create a localized coordination issue between the third party and the bridge owner. Metrolinx will enter into a maintenance agreement with MTO to address this issue.</p> <p>In DC electric traction systems, if there are buried metallic objects, such as pipes, conduits, steel rebar etc., in the path of DC stray return current, the current flows through the metallic objects (because metallic bodies have better electrical conductivity than ground) and then through the ground back to the traction power substation.</p> <p>When DC current emerges from the metallic object to the ground, it causes ionic corrosion of the metallic object. However, in the case of AC traction electrification (which will be implemented for Metrolinx Electrification), AC current reverses its direction 60 times in a second and the earth (ground) is a part of the intended return current path for AC traction. Therefore, since the AC current profile is uniform and sinusoidal and there is a change in the polarity 60 times a second, there will be no noticeable corrosion impact on buried metallic objects located along the path of AC current flowing through the ground.</p> <p>MTO’s policy memo (MTO Structural Manual Section 16.8.1) was reviewed; the Metrolinx electrification project will comply with this MTO policy. There are non-adhesive anchors that the project can use.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>The Electrification project will comply with MTO’s prohibition of mechanical anchors on MTO’s bridges. It should be noted that the drawings previously provided were intended to represent examples/sample drawings for information only, they do not necessarily depict what methods are being proposed (mechanical anchors were one of the examples shown).</p> <p>The Electrification project will comply with MTO’s requirement to verify that anchor installations will not damage any pre-stressing cables, void forms, etc. The contractor will be required to locate, through non-destructive testing such as with a pachometer, the location of the existing reinforcing, pre-stressing cables, etc. within the affected area of the attachment, and then avoid the element when drilling/locating/anchoring the attachment.</p> <p>Metrolinx will provide appropriate calculations to demonstrate the adequacy of retrofitting the anchor design on existing structures as part of the detailed design phase. As indicated during the November 10, 2015 meeting with MTO, loads are minimal as a result of bridge attachments. Regular maintenance/inspection will be undertaken. A maintenance contract may be established to identify frequency of inspection.</p>
		With respect to bridge barriers, it is not advisable to mount non-crash tested railing/barrier system on standard barrier walls. However, as an interim measure the Structural Manual allows them to be mounted on barriers provided a safety system is installed to prevent debris or broken pieces of the noise barrier from falling onto traffic below. The barrier system itself must not have any components that would break and intrude into the passenger compartment or cause undesirable restrained movement of the vehicle In addition, the Proponent is required to verify (by calculation) the capacity of the deck cantilever and the exterior girder for additional dead load and wind load. The condition of the existing barrier and ongoing corrosion also needs to be verified by the Proponent.	The design of the protection barriers that are required for Electrification is currently underway; it will address the safety concerns expressed above and will be coordinated with MTO. Appropriate calculations relative to the existing roadway bridge elements affected by the installation of the protective barrier will be provided to MTO, once available, for review/comment/acceptance.
		All barriers on provincial highways shall be crash tested products. Metrolinx should confirm barrier design is crash tested. The barrier type should be dictated by the CHBDC and should therefore be confirmed by the Bridge Office for compliance.	The design of the protection barriers that are required for Electrification is currently underway. Metrolinx will coordinate the requirements of the protective barrier with MTO as part of the design process.
		Noting point 4) regarding bridge barrier impacts on roadway illumination, there was mention that these barriers will be solid, however access to pole handholes and pole bases are required for routine maintenance and inspection purposes. The design of protective barriers must consider this access requirement.	Metrolinx will take this into consideration for the design of bridge barriers and will ensure that appropriate access is afforded for routine maintenance and inspection purposes.
		Is there any chance we could get a copy of the presentation you made to the public?	A copy of the November public meeting presentation was provided.
Ministry of Natural Resources and Forestry	Pre Planning	Request to provide a name for this EA for MNRF’s filing purposes and clarification of the scope of the project.	Comment noted and information provided to MNRF.
		The PPS does not permit development and site alteration in Provincially Significant Wetlands, as such MNRF would not be supportive of a Switching Station in this location. MNRF encourages Metrolinx to evaluate other alternative locations to site the Switching Station.	Comment noted, and refers to the Durham SWS. The Durham SWS was subsequently relocated outside of the PSW area.
		Looking at appendix P2b LSW Terrestrial and Aquatic Maps, and noticing that there are some bridges due to be replaced and some to be modified. How many structures will be replaced/modified? How many of these are around a watercourse?	The bridge summary tables (Tables 3-3 to 3-8) in the Draft EPR Volume 1 (excerpt attached) best summarizes bridges to be replaced and proposed modifications. A total of eighty-five (85) bridges have been identified as requiring some type of modification, of which thirteen (13) span or are in the vicinity of a watercourse. There are no anticipated footprint impacts or net adverse effects to aquatic features. Below is a more detailed summary of bridges spanning watercourses with proposed modifications:

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>USRC</p> <p>There are no aquatic features within the Union Station Rail Corridor. See Table 3-3 for a complete summary.</p> <p><u>Lakeshore West Corridor</u></p> <p>Bridge modifications (OCS wire attachment) are required at:</p> <ul style="list-style-type: none">- Etobicoke Creek Bridge (Oakville Sub Mile 9.82);- Credit River Bridge (Oakville Sub Mile 13.27);- Sixteen Mile Creek Bridge (Oakville Sub Mile 21.71); and- Bronte Creek Bridge (Oakville Sub Mile 25.87). <p>Potential impacts at Joshua Creek Bridge (Oakville Sub Mile 18.90) may result in association with track lowering at Royal Windsor Drive (Oakville Sub Mile 18.77). Further design work is required to confirm. See Table 3-4 for a complete summary.</p> <p><u>Kitchener Corridor</u></p> <p>None of the bridges requiring modification span or are immediately adjacent to a watercourse within the Kitchener Corridor. See Table 3-5 for a complete summary.</p> <p><u>Barrie Corridor</u></p> <p>Bridge modifications (OCS wire attachment) are required at:</p> <ul style="list-style-type: none">- Holland River Bridge (Newmarket Sub Mile 41.00); and- Tollendale Creek (Newmarket Sub Mile 61.20). <p>See Table 3-6 for a complete summary.</p> <p><u>Stouffville Corridor</u></p> <p>Bridge modifications (OCS wire attachment) are required at:</p> <ul style="list-style-type: none">- Bruce Creek (Uxbridge Sub Mile 49.60); and- West Highland Creek (Uxbridge Sub Mile 55.99). <p>See Table 3-7 for a complete summary.</p> <p><u>Lakeshore East Corridor</u></p> <ul style="list-style-type: none">- Bridge modifications (OCS wire attachment) are required at:- Don River Bridge (Kingston Sub Mile 332.15);- Rouge River Bridge (Kingston Sub Mile 316.10);- Highland Creek Bridge (Kingston SubMile 318.5); and- Duffins Creek Bridge (GO Sub Mile 3.00). <p>See Table 3-8 for a complete summary..</p>
		Can you confirm if the federal government is not a regulatory agency for this project?	With respect to Federal agency review, we have circulated to the Draft EPR to CEAA and DFO as a courtesy, however no formal review/approval is required.
Ministry of Tourism, Culture, and Sport	Pre Planning	<p>The following properties have been evaluated and identified as provincial heritage properties:</p> <p><u>Lakeshore West</u></p> <ul style="list-style-type: none">• Dunn Avenue Bridge – identified as a provincial heritage property (PHP)	Information provided to the Cultural Heritage team for use in the Cultural Heritage Assessment.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">Dowling Avenue Bridge – identified as a PHP <p>Stouffville</p> <ul style="list-style-type: none">CN York Sub (over Uxbridge Sub) – There is an ‘Uxbridge Bridge’ identified as a PHP but not sure if it is the same one <p>Barrie</p> <ul style="list-style-type: none">Bradford GO Station – identified as a PHPAurora GO Station – identified as a provincial heritage property of provincial significance	
		MTCS has received information from Metrolinx Heritage Committee up to November 25, 2014. Since then, there could have been other properties that have been identified as a PHP or PHPPS.	Comment noted. Other properties have been identified in the Cultural Heritage Assessment.
		All the other bridges, stations or any other properties (e.g. cultural heritage landscapes, heritage conservation districts, neighbourhoods) along the corridors, MTCS doesn’t have information from the Metrolinx Committee and/or reports, with some very few exceptions.	Comment noted.
		<p>MTCS is aware that there has been a lot of research/studies done along the railway corridors and specific properties for cultural heritage value. MTCS doesn’t have that information on file. For example, a Cultural Heritage Assessment Report (CHAR) was prepared for the Stouffville Corridor Rail Service Expansion (EA report July 2014) and 3 built heritage resources and 4 cultural heritage landscapes were identified to have the potential to be impacted by the project. As part of the EA commitment, a CHER would be carried out in advance (earliest possible stages of the detailed design phase). MTCS doesn’t have a copy of the CHAR or any CHERs and is not aware that Metrolinx Heritage Committee have reviewed them.</p> <p>Another example is the Georgetown South Service Expansion and Union-Pearson Rail Link: an ‘Existing Conditions and Impact Assessment Report’ (dated July 2009 by Unterman McPhail Associates) identified a couple of cultural heritage resources. Later, CHERs were prepared for particular site and one example is the Humber River Bridge. The bridge was identified as having cultural heritage value, but Metrolinx Heritage Committee hasn’t reviewed yet. It would probably be a PHP or PHPPS.</p>	Comment noted. A full gap analysis and review of existing CHERs was completed as part of the Cultural Heritage Assessment, which identified the issues described here.
		Thank you for sending Metrolinx’s comments. As you are likely aware there are a number of Metrolinx transit projects currently underway which MTCS is currently review. To help us prioritize these transit projects could you tell us your timeline for the Network Electrification project.	<p>Further to the notification sent to MTCS earlier today, we will issue the Network Electrification TPAP Notice of Commencement on June 12th to kick off the 120 day TPAP phase. A Notice of Completion is planned for October 12, 2017.</p> <p>As noted in our email providing responses to your comments on the draft EPR, we would like to set up a meeting with MTCS in the next 4 weeks at your convenience to discuss any further comments or questions.</p>
Niagara Escarpment Commission	Pre Planning	Request for confirmation of whether any of the routes proposed for electrification would be within the Niagara Escarpment Plan Area.	The Project Study Area does not fall within the Niagara Escarpment boundaries. While a portion of the Kitchener Corridor does fall within the boundaries of the Niagara Escarpment, this section of the corridor is not within the scope of the electrification undertaking.
Infrastructure Ontario	Pre-Planning	I am conducting due diligence on a Provincially-owned property managed by IO, that is proximal to 50 Resources Road, Toronto. I toured the area last week and noted that there	The property was used as a storage location for previous projects and there is currently no work occurring. The original plans for the property are on hold and options for the future development are currently being assessed.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		appeared to be some site work at 50 Resources Road. Is Metrolinx moving ahead with the construction of a maintenance yard for the electrification project at this site?	
MUNICIPAL AGENCIES			
City of Brampton	Pre-Planning	<p>I’m seeking clarification on the status of the RER Electrification project. I note that on your webpage it states that</p> <p>“The larger Regional Express Rail program is on schedule and we will continue the conversation with stakeholder and communities with another round of public engagements completed in November 2016. We expect to begin the six-month TPAP process in late winter 2017.”</p> <p>Comments from the City of Brampton were provided on the Draft EPR on Feb 28, 2017. Presumably the EPR is the final deliverable of the TPAP process, so I’m not sure if your indication that the TPAP will begin in “late winter 2017” is a typo, or if there is some other delay.</p> <p>If possible, I would appreciate a quick update on the status of the current electrification study, and if there are plans to m study the corridor from Bramalea Station to Mount Pleasant Stn in the Kitchener corridor, as I had recently seen a Metrolinx figure showing/suggesting (as I interpreted it) Mount Pleasant Stn as the terminus of electrified service</p>	<p>We are working towards beginning the formal 120-day Transit Project Assessment Process (TPAP). We continue to complete our consultation efforts with stakeholders and due diligence with regulatory agencies. As you can imagine, with a network-wide project, this is taking a bit longer than we expected. Stay tuned for the timing of the TPAP Notice of Commencement. For further information on the project please visit: www.gotransit.com/electrification</p> <p>The portion of the Kitchener corridor from beyond Bramalea GO Station to west of Georgetown is currently owned by Canadian National Railway (CN). At this time, Metrolinx is only planning to electrify Metrolinx-owned corridors and further discussions and negotiations with CN are required before electrifying service beyond Bramalea.</p>
City of Barrie	Pre Planning	What are the guidelines on mitigating impacts from stray current on buried utilities as well as any info on potential impacts to our overhead road crossing structures (i.e., induced current within concrete reinforcement bars?)	Stray current is not an issue in an AC electrified environment, and that the electrification infrastructure Metrolinx is proposing building is a 25 kV AC system. Further information was provided regarding the use of flash plates on concrete structures to protect against induced current.
		Request for confirmation of what type of TPF will be located in Barrie.	The type of traction power facility proposed in Barrie is a Traction Power Substation (TPS) located west of Allandale GO Station.
		<p>The City requests additional detail on the proposed transmission line from the Traction Power Station (TPS) south of Tiffin Road and west of Highway 400 to the Allandale Station via the Barrie Collingwood Railway (BCRY) corridor including the following:</p> <p>h. Is the proposed transmission line overhead or underground, what trees need to be removed?</p> <p>i. Please provide further information regarding the conductor support system details.</p> <p>What is the proposed methodology to cross the Highway 400 corridor?</p>	<p>As discussed on the July 28 2016 conference call, the proposed 2 x 25 kV Feeder route will extend from the proposed Allandale TPS facility, where the route will cross Patterson Road as well as Highway 400 along the existing Barrie-Collingwood Rail ROW to the end of the GO Barrie Rail ROW. For purposes of the TPAP, it was assumed that the feeder route along the BCRY ROW will be underground as this represents the worst case scenario from a potential impact perspective. During detailed design, either the aerial or underground design option will be confirmed.</p> <p>The BCRY is not owned by Metrolinx, therefore an easement will be required from the City of Barrie for the installation of the feeder route along the rail ROW. The location and placement of the 2 x 25 kV feeder route will be designed to avoid operational impacts to existing railway operators to the extent possible and Metrolinx is committed to working with the City of Barrie/Barrie Collingwood Railway during detailed design to determine the preferred installation method. Please refer to the update package sent by email on November 7, 2016 for additional information.</p> <p>If an aerial feeder option is chosen, the vegetation clearance zone will be a maximum 7 metre (m) zone from the centre line of the outermost electrified track. This 7 m zone includes:</p> <ul style="list-style-type: none">• 2.9 m clearance from the track to the feeder route pole to ensure clearance of the train to the feeder route pole.• 2.5 m vegetation clearance from the feeder route pole to the limits of the trees.• Up to 1.6 m to account for tree grow back (regrowth zone). <p>Information including the typical vegetation clearance drawing as well as mapping depicting the vegetation clearance zone was provided as part of the update package sent by email on November 7, 2016.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>As outlined in our June 29 2016 meeting, there are three options for installing the feeder route. The final design of the feeder line will be determined during the next phase of detailed design. The line may consist of bare aerial wires, underground conduit, insulated cable or a combination of two or more of these. Beyond the information previously provided, additional details are not currently available at this conceptual design phase.</p> <p>The crossing of the Highway 400 corridor is still being determined, in consultation with MTO.</p> <p>As mentioned, the method of bringing the feeders from the traction power facility to the electrified corridor will be either bare aerial wires, underground conduit, or insulated cable. In cases where feeders pass under roadways, this will likely require a simple support bracket and a post insulator. In some areas there may be a requirement to transfer to insulated cable at some crossings. As noted, this will be determined and finalized during detailed design in coordination with the City of Barrie/Barrie Collingwood Railway.</p>
		MTO is presently completing a detailed design for the rehabilitation and widening of the railway underpass on the BCR line at Highway 400; has Metrolinx verified the proposed design to ensure compatibility with electrification?	Metrolinx is actively consulting with MTO with respect to the electrification project, including the Highway 400/Barrie-Collingwood Railway Overpass crossing and is aware of rehabilitation work proposed at this site and surrounding vicinity.
		In consideration of future growth in Central Ontario, has long range planning included consideration of expansion to the west (i.e., beyond Allandale Station under Highway 400) in consideration of MTO’s proposed changes to the existing rail crossing. Has consideration been given to expanding the Highway 400 rail underpass to facilitate potential future expansion?	<p>The Electrification TPAP represents the 10-year time horizon as a result of the Province’s goal to bring RER to the GO rail network within 10 years as part of its Moving Ontario Forward plan. This timeframe aligns with the initiatives outlined in the GO RER Initial Business Case Summary, 2015, of projects proposed for full or substantial completion by 2025. Infrastructure improvements along the Barrie rail corridor will take into consideration potential requirements beyond the 10-year time horizon, however, expansion beyond the Allandale Waterfront GO Station is outside the current scope of this project. The electrification system is designed such that it does not preclude future network-wide expansions.</p> <p>Metrolinx will continue to engage MTO regarding the Highway 400 project’s design/implementation.</p>
		<p>To provide future flexibility with respect to the transmission line between the TPS and the Allandale Station, has consideration been given to?</p> <p>a. Locating the transmission line in a manner to facilitate potential future expansion of Metrolinx service?</p> <p>b. Is the TPS being sited to facilitate potential expansion?</p>	The electrification system is being designed to accommodate future GO service levels.
		Please provide a summary of other sites considered in the evaluation process that resulted in the selected of the preferred TPS site north of Tiffin Street west of Highway 400.	<p>There were two Tap/TPS configurations considered for Allandale which were identified in coordination with Hydro One to determine feasible ‘tap’ locations. It should be noted there are very limited siting options for this facility in this area due to the location/routing of the existing Hydro One 230kV transmission lines since the power needs to be ‘tapped’ from these existing lines. Furthermore, there are several engineering requirements and criteria that need to be satisfied as part of identifying viable TPS locations:</p> <ol style="list-style-type: none">Is the site situated in the vicinity of Hydro One’s 230kV high voltage lines?<ol style="list-style-type: none">To ensure sufficient power load and to maintain high reliability of the power supply, Traction Power Substations should be located as close as possible to existing Hydro One transformer stations and to the rail corridor.Siting Traction Power Substations as close as possible to existing Hydro One transformer stations will help limit the cost of high voltage transmission lines or cables required for connection.Is the site situated in the vicinity of the GO rail corridor?<ol style="list-style-type: none">To ensure sufficient power load and to maintain high reliability (as noted above).Does the site satisfy minimum size requirements for a TPS?<ol style="list-style-type: none">The site needs to be of sufficient size to accommodate the electrical equipment.Consideration of track geometry

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx																
			<div><div>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</div><div>5. Locations of phase breaks</div><div>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</div><div>6. Proximity to GO stations</div><div>a. Because there is a temporary loss of power to the train consist while traversing a phase break, they need to be spaced sufficiently away from train stations (approximately 1 km) and other locations where the trains make stops. The train consist requires a certain level of speed and momentum to “coast” through the phase break.</div></div> <div>The following additional environmental evaluation criteria were also applied in order to identify the recommended TPF Sites:</div> <table><tr><th>EVALUATION CRITERIA</th><th>DESCRIPTION</th></tr><tr><td colspan="2"><i>Environmental</i></td></tr><tr><td>Natural Environmental Considerations</td><td>Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).</td></tr><tr><td>Cultural Heritage Considerations</td><td>Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i>, as defined in O. Reg. 231/08.</td></tr><tr><td colspan="2"><i>Land Use & Socio-Economic</i></td></tr><tr><td>Land Use/Socio-Economic Considerations</td><td>Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.</td></tr><tr><td>Development Applications</td><td>Consideration of active development applications on the site.</td></tr><tr><td>Property Ownership</td><td>Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.</td></tr></table>	EVALUATION CRITERIA	DESCRIPTION	<i>Environmental</i>		Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).	Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.	<i>Land Use & Socio-Economic</i>		Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.	Development Applications	Consideration of active development applications on the site.	Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.
			EVALUATION CRITERIA	DESCRIPTION															
			<i>Environmental</i>																
			Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).															
			Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.															
<i>Land Use & Socio-Economic</i>																			
Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.																		
Development Applications	Consideration of active development applications on the site.																		
Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.																		
		The City of Barrie is completing the detailed design of the reconstruction of Essa Road (including the BCR crossing) and construction is anticipated later this year. The City could incorporate any required infrastructure with this reconstruction project to minimize disruption to the public and seek to mitigate the potential of throw-away costs. The City requests a meeting with Metrolinx to discuss measure that would facilitate the accommodation of electrification.	No electrification infrastructure would be required to be incorporated at the Essa Road crossing. This is an existing at-grade crossing located outside the limits of the electrification project. It appears that the reconstruction of Essa Road will be completed well in advance of the electrification of the Barrie rail corridor.																
		The City has completed a safety assessment and preliminary design project at the Anne Street and Innisfil Street BCR crossings. Detailed Design has been initiated and construction is anticipated in 2017. The City could incorporate any required infrastructure with this construction project to minimize disruption to the public and seek to mitigate the potential of throw-away costs. The City requests a meeting with Metrolinx to discuss measures that would facilitate the accommodation of electrification.	No electrification infrastructure would be required to be incorporated at these locations. These are at-grade-separation beyond the limits of electrification (beyond Essa Road, on the BCRY).																
		Will the electrification system:	As part of the GO Rail Network TPAP, a Utilities Impact Assessment is being carried out to inventory utilities and carry out preliminary identification of potential utility conflicts due to electrification. Potential conflicts were assessed based on existing or planned utilities																

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>a. Have any short or long term impacts on existing underground or overhead infrastructure?</p> <p>b. Negatively impact the value of adjacent properties?</p> <p>c. Have any negative health impact on residents living along the corridor?</p>	<p>and categorized as follows: spatial conflicts, electrical clearance conflicts, and electrical zone of influence conflicts. Ongoing consultation with utility owners is being undertaken to discuss potential relocation and/or mitigation options, as required. Notwithstanding this, a more detailed review of utility conflicts will be undertaken during detailed design.</p> <ul style="list-style-type: none">Spatial and electrical clearance conflicts may be mitigated through: removal, relocation, reconfiguration or burial of overhead utilities.For utilities attached to bridges, further study of the potential conflict during the design phase will be required to determine the extent of actual conflict.Electrical zone of influence effects may be mitigated through grounding and bonding or isolation. <p>With respect to City of Barrie owned utilities in this particular area (i.e., vicinity of Allandale TPS and feeder route), the following potential conflicts have been identified to date through consultation/discussions with the City (John Struik):</p> <ul style="list-style-type: none">1 culvert3 sanitary sewers7 storm sewers11 water mains <p>Pipelines may need to be relocated and if they are metallic (or encased in a metallic material) may need to be bonded to the Electrification return system. The resolution of conflicts and finalization of specific mitigation measures will be finalized during detailed design.</p> <p>It is difficult to speculate on the potential impacts to property values. In general, there is evidence to show that when homes are located close to transit, the close proximity can have a positive impact on property values. However, each property is different, and there are other factors that can affect property values (for example, the economy and housing markets, changing characteristics of the area, manufacturing demand, and local employment). As such, Metrolinx is not in a position to comment on property values adjacent to the Barrie rail corridor.</p> <p>Metrolinx fully recognizes that implementation of electrification infrastructure could have a visual impact on off-site residences located within proximity to the rail corridor. In addition, Metrolinx is committed to collaborating with the City of Barrie and the community to build infrastructure that will be an asset.</p> <p>With respect to air quality, electrification of the GO network is expected to result in positive effects:</p> <ul style="list-style-type: none">Reductions in rail greenhouse gas emissions, which form a minor part of the regional emissions total;Improved local air quality. <p>With respect to electromagnetic fields, an Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Impact Assessment is being conducted as part of the TPAP to assess the potential effects due to implementation of electrification project infrastructure. No adverse effects are anticipated due to the installation/operation of the electrified system/facilities. Notwithstanding this, once the electric rolling stock has been determined during detailed design, additional EMI/EMF testing and verification will be completed to confirm the initial findings and establish any required mitigation measures.</p> <p>Additional information related to EMF can be found on Health Canada’s website: http://healthycanadians.gc.ca/healthy-living-vie-saine/environnement-environnement/home-maison/emf-cem-eng.php</p> <p>This information will be provided within the Environmental Project Report, which will be shared with City of Barrie in December 2016/January 2017.</p>
		<p>Will the height of existing bridge at Big Bay Point Road over the existing railway tracks need to be increased or existing railway tracks lowered to accommodate the proposed electrification?</p>	<p>The Big Bay Point Road Overhead bridge has a vertical clearance of 6.74 m. At this time, the existing clearance has been deemed sufficient to accommodate electrification. However, it is anticipated that bridge attachments/modifications will be required including flash plate and bridge barriers. Please refer to the update package sent by email on November 7, 2016 for additional information.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		What is anticipated reduced annual greenhouse gas emission from the proposed electrification?	<p>The Metrolinx Electrification Study (2010) estimated that electrifying the entire GO Transit Rail Network would reduce direct future contributions to GHG emissions from over 338,000 tonnes of carbon dioxide equivalent (CO2e) per year to just under 20,000 tonnes per year. Pro-rating the estimated GHG emissions after electrification for the entire GO Transit Rail Network to the length of the network that is being assessed under the current GO Rail Network Electrification TPAP study provides an estimated future level of GHG emissions of just under 10,000 tonnes of CO2e per year.</p> <p>GHG emissions have not yet been estimated for the Electrification Project for:</p> <ul style="list-style-type: none">• Annual emissions during the phase-in period of electrified rail;• Increased service levels associated with Regional Express Rail (RER);• Project construction; or• Indirect contributions to emissions during operation and maintenance. <p>GHG emissions associated with the Electrification Project’s construction phase could be at least 30,000 tonnes of CO2e over the construction period (based on the analysis conducted for the Caltrain electrification project in California). A more detailed analysis would be required to establish a more definite estimate of projected construction related emissions for the Electrification Project. Indirect contributions to GHG emissions during operation and maintenance of the Electrification project would also require further assessment.</p>
		What is the anticipated change in annual operating costs from the proposed electrification? From a life cycle capital/operating cost perspective, is the proposed electrification system justified?	<p>The GO Transit Electrification Study (2010) examined the electrification of the entire GO Transit rail system as a future alternative to diesel trains now in service. The report is available for viewing at http://www.gotransit.com/electrification/en/project_history/default.aspx</p> <p>The findings of the 2010 Electrification Study were considered in the the RER Business Case Model (BCM). The BCM reviewed the service pattern, rolling stock, and required infrastructure, with estimates of ridership, environmental considerations and impacts, and operating and capital costs for multiple RER scenarios, including the current 10-Year Optimized Plan.</p>
		Is additional property required to accommodate the proposed electrification system? If yes, please forward a plan showing where and how much.	<p>Metrolinx is purchasing several properties along the Barrie rail corridor as a result of the track expansion and electrification.</p> <p>Metrolinx will require property in some cases for the purposes of siting traction power facilities (i.e., sites that are not currently owned by Metrolinx). Metrolinx is currently in discussions with potentially affected landowners as part of the TPAP. Details regarding TPF locations were provided in the package provided to City of Barrie on November 7 2016.</p> <p>The Overhead Contact System (OCS) infrastructure will be constructed within a zone of 5 metres from the centreline of the outermost track along all corridors to be electrified. Based on the conceptual design prepared as part of the TPAP, the OCS infrastructure (support poles, wires, etc.) can be accommodated within the Metrolinx owned ROW.</p>
		Proposed site of the TPS conflicts with proposed stormwater management facility endorsed by Council through the Annexation Stormwater Management Master Plan.	<p>Our understanding according to the City of Barrie Comprehensive Stormwater Management Master Plan INTERIM Draft Report (2015), Retrofit Opportunity 38 is described as being a new pond with low priority, a high cost per kg of phosphorus removed and a very low phosphorous removal opportunity. The final assessment ranked this location 26 out of a possible 28 SWM locations within the Lake Simcoe Region Conservation Authority watersheds. Additional work including, natural environmental characteristics were required at the time of the assessment in order to proceed with implementation and confirm the location. It is also our understanding that the proposed SWM location is currently owned by Hydro One (who is a Co-Proponent with Metrolinx on the Electrification TPAP); we assume therefore that the City has consulted with Hydro One with respect to locating a potential SWM pond in this area, however we were not able to find any documentation related to this consultation effort in the 2015 report provided.</p> <p>It is recommended that further discussions occur between Metrolinx and the City of Barrie to better understand the timeline for the City’s future study/plans/implementation in order to establish a solution if required for any possible conflicts. At this time Metrolinx requests a digital GIS shapefile or CAD drawing which delineates the full extent of the planned SWM area, in order to assess the full extent of any possible conflicts with the proposed tap/TPS (note - only the point data was available in the 2015 study named above).</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>In addition, recent follow up was undertaken with the Lake Simcoe Region Conservation Authority (LSRCA). A site investigation by the LSRCA during Summer 2016 confirmed the potential creek/ditch located in the vicinity of the proposed Allandale Tap/TPS, is a channelized ditch and not a watercourse. The channelized ditch appears to originate between homes on Phillip Street and terminates at the Hydro One station north of Tiffin Street. At the time of the site visit, the channelized ditch had no water present. There is evidence that the feature conveys water on occasion with enough to support some aquatic vegetation, however there is no evidence that the ditch connects to another watercourse or waterbody.</p> <p>With this in mind, a conceptual layout for the Allandale Tap/TPS has been prepared which involves reconfiguration of the site so that the ditch is no longer impacted. The TPS equipment is located on the property adjacent to the ditch. The ditch will remain as it is and access to the site will be from Tiffin Street. The 230KV taps to the HONI towers will be made on Hydro One land (exact location TBD during detailed design) and the wires will come from the tap to the TPF aerially over the ditch. The gantries that supply power to the track will be located to the west of the spot where the ditch bends south and crosses the tracks.</p>
		Please advise what criteria will be used to assess whether or not a grade separated crossing will be required, whether there are cost sharing opportunities with the City of Barrie at Minets, Little, Mapleview or Lockhart and if so how the costs will be divided. It is the City’s expectations that the City and Metrolinx would work together to expedite the implementation of any needed grade separated crossings.	<p>Road-rail crossings are important pieces of shared infrastructure with municipalities. Metrolinx is the process of assessing all existing level crossings across the network as part of an effort, in consultation with municipalities, to determine which, if any, ought to be replaced with an underpass or overpass. No decisions have been made at this time. The four key criteria for the assessment include: usage and existing conditions, operations, social/environmental and cost/constructability. Usage included “exposure index,” a standard measure of traffic volumes typically used by transportation agencies in crossing assessment.</p> <p>As shared infrastructure, grade separations are typically cost shared between the rail and road authority, and the Canadian Transportation Agency has guidelines which can help to inform cost apportionment with projects. If a project is determined to be required Metrolinx will work with the municipality to arrive at an agreement.</p>
		Suggest that Metrolinx discuss with MTO their plans to replace existing railing crossing under Highway 400 to ensure it is compatible with Metrolinx expansion to the west.	Metrolinx is actively consulting with MTO regarding the project’s design.
		Please advise what noise studies are being completed and what assumptions are being to undertake the noise study.	<p>The scope of Regional Express Rail (RER) service includes new track infrastructure, as well as infrastructure to allow electrification of the system, such as traction power facilities, OCS poles etc. The system-wide noise study completed for the GO Rail Network Electrification TPAP investigated the impacts of increased rail service (15 minute all day service) as well as noise generated from the electric traction power facilities.</p> <p>Locations along the corridors to be electrified requiring investigation of noise mitigation have been identified through this compressive noise modelling analysis. As a result, Metrolinx is currently in the process of developing a system wide Noise Action Plan to establish the process to be followed for considering/implementing noise mitigation along GO Transit rail corridors. Further details regarding this strategy and its implementation will be shared publically as part of the planned Fall 2016 Public Meetings (details regarding dates for these meetings and formal notification have been provided to City of Barrie).</p> <p>There are no adverse noise effects anticipated due to the operation of the traction power facilities (i.e. predicted noise effects were below Ministry of Environment and Climate Change (MOECC) exclusion limits), therefore no mitigation measures proposed.</p>
		Will the Barrie no whistling agreement need to be updated?	Existing agreements will have to be reviewed and updated to reflect increased service levels.
		Please forward details on associated drainage improvements.	A preliminary Stormwater Management (SWM) assessment is currently underway as part of the GO Rail Network Electrification TPAP for each of the traction power facility sites. Findings and recommendations of this study will be incorporated within the Environmental Project Report (EPR), which will be circulated to regulatory agencies including the City of Barrie for review and comment.
		We strongly encourage that archeological impacts be further investigated throughout the corridor and at Allandale Waterfront GO Station in consultation with the First Nations.	A Stage 1 Archaeological Assessment Study has been undertaken as part of the GO Rail Network Electrification TPAP along the corridors to be electrified as well as TPF sites to identify potential archaeological concerns associated with the project and to identify areas where Stage 2 Archaeological Assessments may be required.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			In addition, Metrolinx is consulting with a number of Indigenous communities, who will be provided the opportunity to review and comment on the archaeological assessment findings prepared as part of the TPAP.
		Please provide details on how BCRY rail service would be maintained through the Allandale Waterfront GO Station with the use of the southerly spur as a second plate form.	It is important to note that diesel trains will still be able to operate under electrified territory. In addition, Metrolinx has an obligation to protect freight train clearance requirements. Metrolinx will maintain existing required plate clearances on the Barrie line. Currently, Metrolinx maintains Plate F south from Allandale to Vaughan, and Plate H south to Toronto.
		Suggest exploring existing or proposed parking opportunities along Barrie Waterfront	An update to the 2013 GO Rail Parking and Station Access Plan is currently being developed and will include recommendations for exploring shared and leased surface parking opportunities in the vicinity of Allandale Waterfront GO station.
		Metrolinx’s studies should incorporate the City’s intensification, transit, and active transportation plans.	The October 2013 City of Barrie Secondary Plan, Background Studies & Infrastructure Master plans – Intensification & Annexed lands shows a number of activities (e.g., planned improvements to Tiffin St. to the north of the TPS site) in the area surrounding the TPFs such as planned sidewalk works, above grade rail improvements and bike lanes, however based on a high level review of this document the proposed location of the Allandale Tap and TPF would not interfere with the proposed work as outlined in this report. If the City is aware of specific conflicts between planned infrastructure/transportation plans and the Metrolinx electrification plans, please provide drawings/plans so that a more detailed review can be undertaken.
		The City’s active developments applications and anticipated future development plans along the corridor should be considered.	As part of assessing the traction power facility sites, we have reached out to all municipalities to request information on active development applications at the proposed TPF sites in order to inform the evaluation process. The City of Barrie provided development applications early in the planning phase. These development applications end in 2015. The City is welcome to provide updated data for consideration.
		Suggest Metrolinx consider how to promote active transportation and lower parking needs by potential charging parking fees and/or offering discounts to active transportation users.	Metrolinx understands that parking is a key issue with customers. With the proposed increase in train service, Metrolinx is looking at leveraging other modes of travel including carpooling, use of local transit, and cycling to relieve the pressure on Metrolinx’s parking facilities. The update to the 2013 Station Access Plan will include exploration of strategies to modify and expand the existing reserved parking program, where GO customers pay a fee to park and ride for a reserved spot. These strategies are aimed toward managing the demand for parking, and ensuring that parking spaces are available to those GO customers with limited access to other station access modes.
		Suggest that Metrolinx allow users to take their bicycles on the GO Train in an effort to promote active transportation to and from the GO Train Station at both ends of the system.	Unless it is a folding bike, we ask that customers refrain from bringing their bicycle during weekdays, on trains travelling into Union Station during the morning rush period (arrivals from 0630 to 0930) and trains leaving from Union Station during the afternoon rush period (departures from 1530 to 1830), as many of the trains are at capacity. Outside of these times, and on weekends, it is completely acceptable as the passenger volume tends to be lower, and more space is available. For customers who wish to cycle from Union Station to their end destination, Toronto Bikeshare is available at Union Station as an alternative option from there. For more information, please visit http://www.gotransit.com/public/en/travelling/leaveyourcar.aspx#cyclng
		Property requirements along the corridor should be finalized so they can be acquired as a condition of development approval.	Metrolinx is purchasing several properties along the Barrie rail corridor as a result of the track expansion and electrification. Metrolinx will require property in some cases for the purposes of siting traction power facilities (i.e., sites that are not currently owned by Metrolinx). Metrolinx is currently in discussions with potentially affected landowners as part of the TPAP. Details regarding TPF locations were provided in the package provided to City of Barrie on November 7 2016. The Overhead Contact System (OCS) infrastructure will be constructed within a zone of 5 metres from the centreline of the outermost track along all corridors to be electrified. Based on the conceptual design prepared as part of the TPAP, the OCS infrastructure (support poles, wires, etc.) can be accommodated within the Metrolinx owned ROW.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>Can you provide a summary of the public consultation concerning the feeder from the TPS to the Allandale Station</p> <ul style="list-style-type: none">- Could you provide details on the mail out limits?- Were specific letters sent or generic notices advising of the PIC? Can you send a copy of either? <p>If specific letters were sent; did they clearly state that Metrolinx is proposing to install two parallel 25kv transmission lines from the TPS to the Allandale Station?</p> <p>If the intent to go overhead was clearly stated in letters to directly affected property owners; did you receive any negative responses?</p>	<p>The first round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from February 16, 2016 – March 22nd, 2016. On February 23rd, 2016 a meeting was held in Innisfil at Nantyr Shores Secondary School, and on March 3rd, 2016 a meeting was held in Barrie at the Holly Community Centre.</p> <p>To provide notification of the public meetings, Metrolinx compiled a comprehensive contact list containing contacts representing various stakeholder groups (copy of notification dated February 1, 2016 attached):</p> <ul style="list-style-type: none">A. Property owners within 30m of the TPAP Study Area;B. Members of the public who participated in past related Metrolinx EA projects (e.g., UP Express Electrification TPAP);C. Community groups, ratepayer associations, business improvement associations, local businesses, etc.;D. Relevant Federal, Provincial, and Municipal Review Agencies;E. Elected officials whose riding is within the study area, including Members of Parliament (MP), Members of Provincial Parliament (MPP), and Municipal Mayor’s and Councillors ;F. Indigenous communities; andG. Utility companies. <p>The second round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from November 7, 2016 – November 29, 2016. On November 21st, 2016 a meeting was held in Barrie at Innisdale Secondary School. For this round of public meetings, Metrolinx went beyond the recommended 30m requirement and sent mailers to property owners within 100m of the Study Area. Mailers were sent via Canada Post Smartmail Marketing Campaign. Over 500,000 addresses were included in the 100m study area mail out (copy attached).</p> <p>For both rounds of public meetings, Newspaper advertisements were also circulated to newspapers such as: the Barrie Advance, the Barrie Examiner, the Innisfil Examiner, and the Innisfil Journal (copies attached).</p> <p>The newspaper advertisement included a Study Area map which showed potential locations for the electrical power supply and distribution facilities. The technical details regarding the installation of parallel 25kV transmission lines from the TPS to the Allandale Station were not shown in the notifications or newspaper advertisements, as the decision to have two poles is only a decision made as of late. However, the concept of a “feeder route” along the BCRY, and the fact that new infrastructure including a pole(s) and wire along the BCRY was discussed and presented to the public at the public meetings held in the relevant areas.</p> <p>The intent to go overhead was not determined until; as mentioned above, as of late, and was not clearly stated in the letters. As a result of this no negative feedback was received. The Electrification will be procured as an AFP model, and as such making binding statements as to whether the feeder cable would be fully above grade or below grade, will be left for Project-Co to determine the detailed design (working in collaboration with the City of Barrie & Metrolinx). Until a detailed design is completed by Project Co (currently a Reference Concept Design), it cannot be explicitly stated to the public that it will be above or below grade. As mentioned with your staff in at the meeting on February 22nd, 2017, based upon engineering analysis and the fact Metrolinx does not own or maintain the track Metrolinx preferred installation is an overhead twin pole feeder route, but until detailed design this is not final.</p> <p>The goal until that time is for Metrolinx and City of Barrie to enter into an agreement to allow Metrolinx (at a future date) to install this “feeder route” and work collaboratively to determine the design and risk mitigation of that feeder route.</p> <p>At the first round of Pre-Planning Phase public meetings, the intent was to: provide an initial overview of the TPAP, introduce project timelines, share a scope of the EA studies and electrification infrastructure requirements, address any preliminary comments, and obtain feedback that could be used to improve project implementation.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>As a result of the feedback from the first round of Pre-Planning Phase public meetings, the focus of the second round of Pre- Planning Phase public meetings focused on:</p> <ul style="list-style-type: none">- Update project timelines;- Update on conceptual electrification design;- Noise impacts (increased service) and draft mitigation options to be considered;- Vegetation/Tree removal impacts and draft mitigation options to be considered; and- Visual/Aesthetic impacts and draft mitigation options to be considered. <p>Please see attached display panels shown at the public meetings with information pertaining to the Allandale Tap/TPS.</p> <p>The public meeting information can also be found online at:</p> <p>Public Meeting #1 https://www.metrolinxengage.com/en/content/barrie-corridor</p> <p>Public Meeting #1 – Summary Report http://www.gotransit.com/electrification/en/20160530_GORailNetworkElectrification_TPAP_PublicMeeting1_Summary_Report_EN.pdf</p> <p>Public Meeting #2 https://www.metrolinxengage.com/en/content/innisdale-secondary-school-95-little-ave-barrie</p>
Town of Innisfil	Pre Planning	Recent public consultation for the Official Plan Update, together with the update to the Town’s corporate plan, has reinforced the importance of the agricultural and rural landscape for our residents. Maintaining the character of this viewshed is important to the land use planning policies of the Town. We remain hopeful that any preferred option for electrification takes into consideration the visual impact of the supporting gantries and paralleling station.	<p>Comments noted, especially with regard to the placement and design of the proposed paralleling station and associated gantries within the Town of Innisfil.</p> <p>As part of the Electrification Project EA, Metrolinx will be undertaking a Visual Impact Assessment (VIA) in order to document baseline conditions within the study area, assess potential impacts and provide recommended mitigation measures (e.g., design solution, screening, etc.). The results of the VIA will be included in the draft EPR, which will be provided for the Town of Innisfil for review and comment.</p>
		Any oversized vehicles needing to access the larger population areas or agricultural equipment will only be able to do so over a single grade separated crossing at 6th Line. As a result, we request that any future design consider maximizing wire height and/or other measures to accommodate oversized vehicles. Similarly, any proposed design should also include road safety measures to prevent unintentional contact with wire infrastructure.	<p>The maximum height for vehicles and loads according to the <i>Highway Traffic Act</i> is 4.15 m. The electrical wires associated with the OCS located at road-rail grade crossings will be equal to or higher than the required clearance of a hydro utility line that would normally cross the road.</p> <p>Generally, higher voltage wires are located higher on utility poles to maintain clearance requirements. The code requires a minimum clearance of 6.0 m and the design of this project will provide a minimum clearance of 6.7 metres.</p> <p>Public and operational safety is of the utmost importance. As such Metrolinx will be reviewing additional security and safety measures as part of an Operations Framework for RER service for at-grade crossings.</p>
		<p>The Town is currently undertaking a Municipal Class Environmental Assessment (Class EA) for the widening of 6th Line from Simcoe County Road 27 to St. Johns Road in accordance with the recommendation in the Town’s Transportation Master Plan. A call between Metrolinx and the Town’s 6th Line Class EA consultant discussed the following key design parameters to determine the preferred design of the vertical alignment for 6th Line over the tracks:</p> <ul style="list-style-type: none">• A 7.4 m vertical clearance should be provided about the top of the rail to accommodate electrification;• A lateral clearance of 1 m outside of the existing Metrolinx right-of-way to the face of a future bridge abutment will be sufficient for future bridge design (existing right-of-way is wide enough to accommodate a double track); and	<p>The key design perimeters listed in this comment will provide sufficient clearance to accommodate electrification infrastructure and no deviation from the identified perimeters are anticipated.</p> <p>Bridge screening will be required to ensure public safety (i.e. pedestrians) and to protect electrification equipment. The height of the barrier is typically 2 m tall (from standing surface) and a length of 3 m or more on either side of the electrified wires. Additional modifications to the bridge barrier walls will be required in the future as part of electrification.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">Metrolinx does not foresee significant grade change for any new rail construction so future bridge designs can assume the top of the future rail would be no higher than existing. <p>The Town requests that any deviation for the above key parameters discussed previously be provided by Metrolinx no later than December 31 2015.</p>	
		As part of the overpass reconstruction, the Town would like to discuss cost sharing with Metrolinx.	Comment noted. Discussions of cost sharing will be undertaken as the electrification design progresses.
		The Town would like to identify that the proposed paralleling station in Gilford is within a delineated settlement area and on a site that is in the pre-consultation phase for residential development. We understand that there is some flexibility in the location of this station either north or south. We request that a location to the south be chosen in the vicinity of the 14th Line for the purposes of reducing potential visual impact and location in an area of the Town unlikely to experience future growth pressures. Location of a paralleling station along the periphery of the Town boundary would also reduce any potential of the paralleling station precluding a future Innisfil passenger station currently being considered.	Metrolinx has undertaken a site selection process based on a number of criteria (feasibility, natural environment, land use/socio-economic, property acquisition, property shape, site accessibility). While there is some flexibility in siting the facilities, the site options are limited by these criteria, which ensure sufficient and reliable power will be administered to an electrified network. In the case of the Gilford PS, there was flexibility in the site location, and it was moved to accommodate the Town’s request and due to other conflicts.
		Alternative Location 3 is preferred for us as it is the least impacting for the future development and expansion of Gilford. It also minimizes residential interfaces, except the house to the west whose rear yard and outlook directly faces the proposed site. Given the degree of potential visual change as a result of the proposed Parallel site, we will likely be looking for evergreen screening along the west side and assurances that noise will not be an issue.	Comment noted, and the Town’s preference was taken into account in the site selection process. The visual and noise impacts of the preferred TPF sites were assessed out as part of the EA, which included discussion of mitigation measures as appropriate.
		Our transportation masterplan will require a 1.5 meter widening along the road frontage of the location 3 site, so please add this to your land requirements if you want to avoid any potential constraints.	Comment noted. This information was included in the analysis of alternate sites.
		The preferred Alternative 3 site, like the others, is also located within a regulated area of the Lake Simcoe Region Conservation Authority.	The Lake Simcoe Region Conservation Authority was contacted as part of the TPAP and the assessment of effects on the Natural Environment, and this issue was discussed with them. Any TPFs built within a floodplain will be built to withstand flooding conditions and will not increase flooding hazards.
City of Markham	Pre Planning	<p>We can’t fully support the location of the Unionville PS; further discussions are required as there are a couple of projects associated with this area such as 407 Transitway (potential to move the alignment south of the 407) and Miller Avenue extension (EA filed in 2013 with preferred alignment), that could conflict with the PS. The Miller Avenue EA is available to download, and illustrates the preferred alignment of Miller Ave between Birchmount and Kennedy.</p> <p>The approved 407 Transitway west of Kennedy is proposed north of the 407. The City has however suggested alternate alignments, including one south of the 407. In order to protect for this potential alignment, we suggest moving the paralleling station further south, closer to Miller Avenue.</p>	<p>The map showing the location of the proposed PS indicated a large area being considered for the PS. The purpose of this was to collect baseline information for the entire extent of the property, thus providing some flexibility as to where the PS could ultimately be located. However, the actual footprint of the PS will be much smaller.</p> <p>A review of the Miller Avenue EA indicated that the proposed Unionville PS is not anticipated to preclude the implementation of the proposed Miller Avenue extension and/or the future 407 Transitway alignment.</p> <p>In addition, Metrolinx is actively consulting with the MTO as part of the Electrification project to ensure no conflicts between the proposed design with any potential future expansion plans. Further coordination with the City of Markham will be undertaken as the Electrification Project progresses, to ensure that conflicts are minimized to the extent possible.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>We noted that the access to the site was from Miller Avenue, just east of the railway. Miller Avenue EA illustrates the crossing to be an overpass and the location of the driveway may not be achievable due to the grade difference.</p> <p>The station location was also discussed internally, and further to our initial comments in March, the City would prefer for the station to be located on the south side of Miller Avenue. The comment above on the access from Miller Avenue would also apply to the south side, as it may have to be extended further to the east.</p>	<p>A review of the Miller Avenue EA as well as the sketch provided as part of your March 30th correspondence was undertaken which identifies the proposed Miller Avenue extension, preferred 407 Transitway alignment (north of 407), as well as the City of Markham’s suggested alternative alignment (south of 407). These alignments, as well as the proposed Unionville Paralleling Station (PS) are shown on the attached map. It is our understanding that the preferred 407 Transitway alignment is north of the 407 as established through the 407 Transitway from east of Highway 400 to Kennedy Road Transit Project Assessment Process (TPAP), which received EA approval in February 2011. Based on the available information, the proposed Unionville PS is not anticipated to preclude the implementation of the proposed Miller Avenue extension and/or the future 407 Transitway alignment, including the preferred and alternative alignments provided.</p> <p>In addition, Metrolinx is actively consulting with the Ministry of Transportation (MTO) as part of this project to ensure no conflicts with the proposed design with any potential future expansion plans. At present, MTO has not advised of any potential conflicts with respect to the proposed Unionville PS site.</p>
Town of Newmarket	Pre Planning	We just want to ensure that any kind of electrical station in the vicinity of the rail corridor and Mulock Drive would not preclude the Mulock Train Station.	Typically a distance of approximately 750 m to 1000 m (ideally) is required between a traction power facility and a train station. Metrolinx is currently undertaking a network-wide analysis of potential new station locations, and the proposed SWS in Newmarket will be taken into account during this analysis.
		What is the separation distance between passenger stations and SWSs?	The ideal required distance between a traction power facility (TPF) and a GO Station is approximately 750 m to 1000 m.
Town of Oakville	Pre Planning	The property at 560 Maplegrove Drive in Oakville is currently being used by Transforce. Based on the current electrification study timelines, are you able to give me a rough idea when the property would be needed for the switching station?	This information is correct, the previous owner of 560 Maplegrove Drive still operates on the site through a License Agreement with Metrolinx. Metrolinx’s Property Management & Leasing Department will contact the business owner to ensure there are no issues with locating the TPF at the site.
		<p>Once the Lakeshore West line is electrified, any current level road/rail crossings will become significantly more challenging and costly to construct. In Oakville we have 4 level crossings (Burloak Drive, Fourth Line, Kerr Street and Chartwell Road). We are currently working with Metrolinx to deliver the Burloak Drive grade separation prior to the electrification of the line. We are also working on the design of the Kerr Street Underpass - but we have been advised by Metrolinx staff that any grade separation project that cannot be built by 2019 should be delayed until after the electrification project is completed – we cannot complete the Kerr Underpass in this time frame.</p> <p>With Metrolinx moving forward with the electrification project in advance of the construction of key grade separations, this will result in an increase in complexity and cost to construct grade separations post electrification. While we can resolve the complexity issues, who is expected to pay the increase in cost? Is Metrolinx going to underwrite the cost of the relocation/temporary electrical facilities that will be needed to detour the rail line during construction of a grade separation? Or is Metrolinx expecting the municipality to share in the cost as per the CTA Cost Apportionment Guideline document? If it is the latter, Metrolinx is placing quite a financial burden on the local municipality – there may be cases where the municipality cannot afford this cost or will have to defer the construction for many years.</p> <p>It would be prudent for Metrolinx to address the most significant grade separation projects along the Lakeshore Line in advance of electrifying the rail line. For example, can the electrification work be staged to allow us time to complete projects like the Kerr Street Underpass? The higher frequency of train service that electrification will bring will be in conflict with the current major level road/rail crossing and will negatively impact the safety exposure index.</p>	<p>Road-rail crossings are important pieces of shared infrastructure with municipalities. Metrolinx is in the process of assessing all existing level crossings across the network as part of an effort, in consultation with municipalities, to determine which, if any, ought to be replaced with an underpass or overpass. The four key criteria for the assessment include: usage and existing conditions, operations, social/environmental and cost/constructability. Usage includes “exposure index,” a standard measure of traffic volumes typically used by transportation agencies in crossing assessment. As shared infrastructure, grade separations are typically cost shared between the rail and road authority, and the Canadian Transportation Agency has guidelines which can help to inform cost apportionment with projects. If a project is determined to be required, Metrolinx will work with the municipality to arrive at an agreement.</p> <p>Metrolinx appreciates the comments from the Town of Oakville related to Kerr Street. We will continue to engage with the Town of Oakville to address road-rail crossings, including the upcoming meeting planned for later this month.</p> <p>You are correct that the purpose of a bridge protection barrier is to protect pedestrians/infrastructure users within the public right-of-way on bridges from direct contact with adjacent live parts of the Overhead Contact System (OCS) for voltages up to 25 kV to ground. These barriers also protect against damage to the OCS infrastructure by providing an obstacle for any debris that may be thrown onto the railway from overhead.</p> <p>Maintenance/inspection of bridge barriers will be the responsibility of Metrolinx. Further review and discussion regarding existing bridge maintenance agreements will be needed as the project’s design progresses and specific details of the bridge barrier and OCS attachments become available.</p> <p>Please note that the draft Environmental Project Report (EPR) for the GO Rail Network Electrification project will be distributed to municipalities for review in late January 2017. Details will be provided to you shortly. Metrolinx would be willing to arrange future meetings to discuss any questions or concerns related to the environmental assessment.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		A secondary comment relates to the addition of pedestrian safety walls between a sidewalk on an overpass structure and the electrification line. I am of the understanding that these walls are necessary to protect a pedestrian from potential electric arcing/shock). I had previously raised with Metrolinx the issue of who was going to maintain these walls which would be affixed to a structure owned by the municipality. These walls will require life cycle maintenance (repair/replacement) and also regular maintenance (cleaning of graffiti, etc.). This maintenance, should be the responsibility of Metrolinx and the attachment of anything to a municipal structure should be done under a formal agreement outlining responsibilities for maintenance and liability.	
City of Oshawa	Pre Planning	The City does not have any future expansion and/or improvement plans to any City owned infrastructure within the scope of this specific project.	Comment noted.
		<p>We do have a preference for the RER to extend to Thornton’s Corners station rather than to the existing Oshawa GO station south of Hwy 401 for the following reasons:</p> <ul style="list-style-type: none">Existing Oshawa GO station south of Hwy 401 is an unsuitable terminus for RERThe existing station is isolated, difficult and hazardous for pedestrians and cyclists, and access for drivers and GO and DRT buses is slowEA focus to the existing Oshawa GO station site would incur costs to a station that will be by-passed with the construction of the Lakeshore East extension over Hwy 401, as per the approved EANorth location of RER terminus will better support the Big Move and Provincial Growth Plan (land uplift, employment and density targets, transit and active transportation integration)North location will support dLAB (Durham Learning and Business), a significant planned development that will support 3,000 jobs.	Our plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station. In light of this project, Metrolinx will be reviewing these plans to determine how it can provide the best possible rail service for Oshawa residents. Once Metrolinx has completed further technical analysis and negotiations with CP Rail, it will be in a position to confirm service levels at each of the existing or proposed stations in Oshawa – such as the planned station at Thornton Road. Regardless, there will be two-way, all-day electrified service to the City of Oshawa by 2024.
		All the City’s design standards, various documents, and by-laws to provide guidance on minimum engineering design requirements within the City of Oshawa can be found here http://www.oshawa.ca/business-and-investment/engineering-design.asp	Comment noted. This information was circulated to the appropriate project team members.
City of Pickering	Pre Planning	<p>In March of 2015, the Ontario Municipal Board approved Amendment 26 to the Pickering Official Plan. Amendment 26 adds new policies and changes existing policies to the Pickering Official Plan, creating a framework for the redevelopment and intensification of the City Centre, and identifying required infrastructure improvements and transportation connections within and from the City Centre, in support of anticipated population and employment growth. More specifically, through this amendment the City designated:</p> <ul style="list-style-type: none">the extension of Plummer Street as a “Collector Road”, east-west through the hydro corridor, anda new “Type C Arterial” that would flyover the 401, running north-south through the hydro corridor. <p>These future roads are illustrated on the Transportation System schedule of Amendment 26 (see the final page of the amendment at https://www.pickering.ca/en/cityhall/resources/OPA26_OMB_Approved.pdf). These new roads play an essential role in supporting future growth and development in the City Centre, to meet the expectations of the Provincial Growth Plan. Accordingly, we are</p>	A review of the Transportation System schedule of Amendment 26 was undertaken and a mapping overlay of the proposed Plummer Street extension and new “Type C Arterial” road was created to identify and review any potential conflicts with the proposed Pickering SWS location (please refer to the attached map). Note that the pink outlined area on the map represents the legal property boundary for this particular parcel of land and the actual location and approximate dimensional requirements for the Durham SWS are indicated by the yellow shaded box. Based on the currently available information, the proposed Durham SWS location is not anticipated to preclude the implementation of the proposed Plummer Street extension and/or the new arterial road.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		concerned that the new location (Durham Alt 4) for the switching station may preclude the implementation of these roads, compromising the ability of the City Centre to attract the desired level and intensity of development.	To clarify, the network-wide electrification TPAP is not reviewing the existing road rail crossings. A separate network-wide grade separation analysis is reviewing which road rail crossings will be grade separated (i.e. to create an underpass) and when. As previously indicated, the LSE Guildwood to Pickering TPAP is only grade separating Scarborough Golf Club Road, Galloway Road, and Morningside Avenue. Rodd Avenue will remain a road rail crossing. The crossing will be reviewed to ensure continued safety given the addition of a third track.
		While I can appreciate that Metrolinx is carrying out 2 separate Assessment processes, there is a need to provide our residents with a co-ordinated approach. What ever is being planned for the Lakeshore East Segment (Guildwood to Pickering) and the Networkwide Electrification GTA corridor has over lap as it involves the Rosebank South Community Crossing which is the only street corssing that will be impacted in both processes as well as impacts along lake shore communities in Pickering. This raises the question as to how any electrification could be carried out without closing off Rodd Ave which takes us back to the communities initial concerns as one process could remove the closing while the other could recommend it.	
City of Toronto Via January 8, 2016 Meeting	Pre Planning	The vast majority of the Bridge Ownership indicated in the table provided to the City is incorrect. Please provide us with the Board Orders that show that the City of Toronto is the owner of all these structures.	Issues regarding bridges in the City of Toronto are being discussed in a series of TAC meetings, as described in Section 1.2.5.3.3. Specific questions are shown in this table, in the rows below.
		The vertical clearance for the Dufferin Street Bridge is shown as 7.01 m. In fact, the existing temporary bridge has a vertical clearance of 6.4 m. If the City builds Dufferin to 7.01 m as indicated in the Approved EA, would there be no vertical clearance issue? We have been under the impression that Metrolinx needs more than 7.01 m and have currently put the reconstruction of the bridge on hold due to the lack of clarity being provided by Metrolinx.	
		Has MX surveyed the existing vertical clearances? If not, the City cautions that we have had experience in the past where the old drawings may not accurately reflect the actual clearance and strongly recommend that a new survey be undertaken.	
		What about Dunn Ave. on LSW? We are installing temporary bridges at Dunn Ave. on the Lakeshore West Corridor with a clearance of 6.5 m. Is this not an issue?	
		Regarding the Scarborough TPS, are you coordinating electrification efforts with Mx LSE expansion project?	Yes. The facility at this site is now an SWS.
		A variety of questions regarding the Scarborough TPS site at Brimley Road and the Lakeshore East Corridor.	This site was part of the original list of possible sites being considered, however was subsequently removed from consideration as a more preferred site (the Scarborough TPS location at Kennedy Road and Lawrence Avenue East) was identified.
		Comments regarding the proposed Don Yard PS location: <ul style="list-style-type: none">Is within the floodplain;Gardiner Expressway plans to be considered;Unilever proposal to be considered;Possible new GO station at Don Yard layover site to be confirmed/further reviewed;TRCA is looking at future floodplain initiatives/solutions north of the rail corridor. Mx needs to meet with TRCA to get comments on proposed site; and,Need to consider the long term development plans for this area.	These comments were noted, and will be considered in the EA. Metrolinx will be consulting with TRCA as part of the upcoming Impact Assessment phase of the EA. A working session with the groups mentioned was organized on February 18, 2016 to discuss siting options and the constraints at the site.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx				
		City staff suggested a working session to review the issues and further identify proposed locations for the PSs. City to provide additional contacts that should be a part of the working session. Suggested representatives from City of Toronto, Waterfront Toronto, TRCA attend.					
		Have you been in contact with Utilities?	Yes, as part of Baseline Conditions work contact has been made with utilities to identify any potential conflicts with the new electrification infrastructure (buried and aerial). The next step is to carry out an impacts assessment to determine potential effects on existing utilities and options for mitigation.				
		What design merits are being considered [for TPFs]? Don’t want it to be based solely on cost.	<p>Cost is only one factor considered in the siting and design of the traction power facilities. The list of criteria proposed for evaluation of the TPF sites as part of the EA are as follows:</p> <p><u>Criteria for identifying alternative/viable TPS Sites:</u></p> <p>The following criteria were applied in order to identify alternative TPS sites.</p> <p>7. Is the site situated in the vicinity of Hydro One’s 115kV/230kV high voltage lines?</p> <p>a. To ensure sufficient power load and to maintain high reliability of the power supply, Traction Power Substations should be located as close as possible to existing Hydro One transformer stations and to the rail corridor.</p> <p>b. Siting Traction Power Substations as close as possible to existing Hydro One transformer stations will help limit the cost of high voltage transmission lines or cables required for connection.</p> <p>8. Is the site situated in the vicinity of the GO rail corridor?</p> <p>a. To ensure sufficient power load and to maintain high reliability (as noted above).</p> <p>9. Does the site satisfy minimum size requirements for a TPS?</p> <p>a. The site needs to be of sufficient size to accommodate the electrical equipment.</p> <p>10. Consideration of track geometry</p> <p>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</p> <p>11. Locations of phase breaks</p> <p>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</p> <p>12. Proximity to GO stations</p> <p>a. Because there is a temporary loss of power to the train consist while traversing a phase break, they need to be spaced sufficiently away from train stations and other locations where the trains make stops. The consist requires a certain level of speed and momentum to “coast” through the phase break.</p> <p><u>Evaluation Criteria for Identifying Recommended TPF Sites:</u></p> <table><tr><th>EVALUATION CRITERIA</th><th>DESCRIPTION</th></tr><tr><td colspan="2"><i>Environmental</i></td></tr><tr><td>Natural Environmental Considerations</td><td>Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).</td></tr></table>	EVALUATION CRITERIA	DESCRIPTION	<i>Environmental</i>	
EVALUATION CRITERIA	DESCRIPTION						
<i>Environmental</i>							
Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).						

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx	
Via February 8, 2016 Meeting			Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.
			Land Use & Socio-Economic	
			Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.
			Development Applications	Consideration of active development applications on the site.
			Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.
			Technical	
			Property shape/configuration	Consideration of the site shape/configuration. Square/rectangular sites are preferred over irregularly shaped sites in order to provide the most ideal space for the configuration of the electrical equipment on the site.
			Access for Construction, Maintenance and Emergency Vehicles	Consideration of the accessibility of the site in relation to construction, maintenance and emergency services.
			Type/length of high voltage connection	Shorter, aerial high voltage connection routes are preferred over longer, underground cable connections which are far more costly.
		Would Metrolinx be open to a joint design committee to review the TPF location designs during the Detailed Design phase? City staff recommended potentially taking staff on a walk around of the proposed sites	Metrolinx will review this request internally and discuss further with City of Toronto as the project progresses.	
Via February 8, 2016 Meeting		Can a substation be co-located with another similar facility (e.g., located with Eglinton Crosstown substation)	This option was reviewed, however the Eglinton LRT is DC power and the Metrolinx electrification system is AC power, the two systems are not compatible and therefore two separate substations will be required. Additionally, locating a substation near the Eglinton DC substation is not an ideal location for the GO System.	
Via February 8, 2016 Meeting		How will construction be staged? Are you doing certain corridors first?	Yes. Working West to East. The corridors will be phased starting with the Lake Shore West, then the Kitchener line, Barrie, Stouffville. The Lake Shore East will be last.	
Via February 8, 2016 Meeting		Would be very good to show chronology of site selection at PIC's to show how the sites were determined and logic behind it in order to get public by-in.	The site selection criteria as well as the evaluation process to determine recommended locations will be presented for comment and feedback at the first round of public meetings.	
		Will PIC's include other RER works/projects?	The PICs for Electrification are being coordinated as much as possible with the consultation efforts on RER. Combined PIC meetings for RER and electrification will be carried out as much as possible for the Feb/March meetings.	
		How many bridges are you anticipating needing attachments?	A Bridge Summary Table was provided, highlighting the bridges requiring attachments.	
Via February 8, 2016 Meeting		Is Metrolinx looking to renegotiate the existing maintenance agreements?	Further review and discussion of existing bridge maintenance agreements will need to be undertaken as the Project's design progresses and specific details of bridge barrier and OCS attachments become available.	
		What is the effect on the existing bridge if a bridge barrier is added? Will it decrease the load carrying capacity of the bridge or require repairs/rehab? Could be a concern if you don't replace the superstructure.	The installation of bridge barriers is not expected to control the design/load carrying capacity of a typical roadway bridge. But, it may affect a typical pedestrian bridge to the point of requiring repairs or replacement. The extent of impacts will depend on the site/conditions and the proposed barrier; associated engineering isn't expected to be performed until later in the Project's schedule.	

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via February 8, 2016 Meeting		Can you provide horizontal barriers [for bridges]?	The Canadian Standards Association (CSA) does not account/speak to horizontal barriers.
		Instead of attaching barriers to the bridges, can you cover the OCS wires?	This is currently practiced in other countries (e.g., New Zealand), but is not in the CSA code. This would require a request to amend the CSA code, and therefore is not being considered.
		Can you share [Metrolinx’s] heritage bridge evaluation process?	Metrolinx provided a copy of the Draft Metrolinx Heritage Protocol procedure along with the meeting notes.
		Metrolinx is confirming existing bridge clearances through LiDAR surveys. Does the LiDAR only look at centre line?	No, it can be picked at any place with 1 ½ to 2 cm accuracy. It also takes into account the dynamic envelope of the trains.
		Metrolinx should utilize City of Toronto bridge inventory numbers to avoid confusion within Bridge Summary Table provided at the meeting.	Metrolinx will update the bridge table with the appropriate info. It was requested that the City provide the inventory numbers.
		At what point in the assessment process will bridge modifications/replacement recommendations be determined? Should it be part of the EA? The City would have concerns that procurement could be tendered without knowing which bridges may need to be replaced.	Additional corridor-specific meetings will be scheduled with the City of Toronto to further review and discuss bridge impacts due to electrification as well as those bridges which potentially need to be modified/replaced. Costing issues will need to be worked out between Metrolinx and the City of Toronto.
		City of Toronto Staff noted that an EA for the extension of the West Toronto Railpath (a multi-use path) under the Dundas Street West bridge has just been finalized, which will be a significant investment. Noted concerns with respect to potential conflicts and safety concerns.	<p>This will be reviewed and a safety clearance exercise undertaken. The first step will be to review CSA codes to ensure safety clearances are met. If they are not, possible solutions include insulated cables and barriers.</p> <p>Metrolinx noted that a separate EA is being undertaken for the Barrie Expansion, which will also consider future plans for the West Toronto Railpath. Further coordination between the City for the West Toronto Railpath Extension, and Metrolinx for Barrie Corridor Double Track Expansion and GO Rail Network Electrification will be required.</p>
		Regarding the Dufferin Avenue Bridge, an EA has been completed by the City for a replacement bridge at 7.01 m clearance, but is currently on hold. The permanent replacement bridge at Dunn Avenue is similarly on hold. The City of Toronto requires clear direction from Metrolinx regarding clearance requirements. At present, a temporary bridge at each site has been provided. City of Toronto advised that temporary bridges have a lifespan of ten years.	<p>Bridge clearance requirements were further discussed in subsequent meetings with the City of Toronto.</p> <p>With regards to the Dufferin Avenue and Dunn Avenue bridges, EPR Volume 5 contains the following commitment:</p> <p>The detailed assessment of potential environmental impacts and public/stakeholder consultation related to the replacements of Dunn Ave. Bridge, Dufferin Ave. Bridge, Jameson Ave. Bridge, Dowling Ave. Pedestrian Bridge on the Lakeshore West corridor will be carried out as part of an EPR Addendum process to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design. The City of Toronto and Toronto Transit Commission (TTC) will be engaged as appropriate in the Addendum process.</p>
		<p>City of Toronto staff noted that all bridges up to Highway 427 will be impacted by improvements to the Gardiner Expressway.</p> <p>The Gardiner P3 project involves rehabilitation of the Expressway from the Don River in the east to Highway 427 in the west. The RFP expected late 2017, with construction to begin in 2018. City staff noted that council meeting minutes are available, and that the permanent replacement bridge for Dowling Avenue will likely be a Pedestrian Only bridge as it would be too difficult to facilitate vehicular traffic flow at that skew.</p>	<p>Metrolinx has held further meetings with the City of Toronto to further discuss the Dowling Avenue bridge. With regards to the Dowling Avenue Pedestrian Bridge, EPR Volume 5 contains the following commitment:</p> <p>The detailed assessment of potential environmental impacts and public/stakeholder consultation related to the replacements of Dunn Ave. Bridge, Dufferin Ave. Bridge, Jameson Ave. Bridge, Dowling Ave. Pedestrian Bridge on the Lakeshore West corridor will be carried out as part of an EPR Addendum process to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design. The City of Toronto and Toronto Transit Commission (TTC) will be engaged as appropriate in the Addendum process.</p>
		There is a need to document who owns which structures, and requested that Metrolinx provide this information to the City for review/verification.	Metrolinx has held further meetings with municipalities including the City of Toronto to further discuss bridge modifications, including ownership and maintenance agreements. With regards to bridge modifications, EPR Volume 5 contains the following commitment:

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via April 12, 2016 Meeting <			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via June 28, 2016 Meeting		The Dunn/Dowling/Dufferin/Jameson bridges only have a 10 year life span and therefore need to be replaced prior to electrification.	This will be considered as part of the feasibility study for these bridges.
Via June 28, 2016 Meeting		The City requires additional information/input from Metrolinx regarding the West Toronto Railpath before the City can commence detailed design.	Metrolinx committed to taking this back for internal discussion and providing a response.
		Regarding the West Toronto Railpath, is there room for Bike Path based on Metrolinx plans?	This is still under review as part of the engineering design process. A separate meeting/workshop will be scheduled with the City as/if required.
		Regarding the West Toronto Railpath, what does Electrification mean for Dundas Street West bridge structure?	Metrolinx does not have plans to alter the bridge.
Via April 12, 2016 Meeting		Would MX be open to placing poles further back away from bridges? City staff indicated a preference for additional distance (4m).	It depends, placing the poles further back would likely require additional bridge attachments. Metrolinx will take this preference away for further consideration.
Via April 12, 2016 Meeting		Is stray current a concern?	Stray current is primarily a concern for DC systems, not AC systems such as what is being proposed by Metrolinx.
Via April 12, 2016 Meeting		Are there any proposed upgrades to security fencing on Metrolinx corridors for electrification?	Upgrades to specific sections of fencing would depend on the location of electrification infrastructure.
Via April 12, 2016 Meeting		All photos shown are vertical barriers. Is there any examination of shrouds? Can protection be accomplished in different ways?	Shrouds have not been considered since they are not well suited for Toronto’s climate. They can become collection point for ice/snow which would potentially come into contact with the OCS and trains.
		Bridge barriers are a significant visual impact to the communities and public realm. The high quality design of the barriers is an important 'principle' that needs to be considered early on and at the beginning of the process.	During detailed design barrier designs that maintain existing views will be considered and implemented where possible. In addition, a design excellence process will review options for design treatments/options for enhancing the aesthetics of bridge barriers in consultation with interested/affected municipalities.
		Regarding OCS attachment, what about local effects of where barrier connects to sidewalk? Are ice and wind loads taken into account? What about small bridges, old bridges?	The examples presented at the meeting are for typical situation on a roadway bridge. Each bridge requiring bridge barriers will be analyzed. Loads used in these examples are for one face of a bridge and assume distribution of load across all girders and bearings. Bridge barriers have a relatively small impact, approximately 2% additional load, so in essence a negligible impact. Regarding wind loading, as depth increases wind increase goes down accordingly.
		Bridge barriers and winter, salt?	In other jurisdictions (e.g., New Jersey and Boston), salt is heavily used on the roads without noticeable impact. The effects of snowplows on barriers similarly had minimal impact.
		Via April 12, 2016 Meeting	Regarding Lakeshore East bridges, will grade separations impact the track profile?
Via April 12, 2016 Meeting		How would bridge barriers join to bridge expansion joints? Would this create pinch points?	The barriers would plate over expansion joints.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via April 12, 2016 Meeting		City Planning does not support the removal or elimination of any pedestrian bridges, these connections must remain. If the Electrification program impacts these structures these facilities are to be replaced and connections maintained.	While some pedestrian bridges are identified for replacement in order to accommodate electrification, pedestrian bridges will not be removed as part of the Electrification project.
		Why would Metrolinx not want to attach to bridges/structures?	Attachments add a layer of complexity and maintenance requirements, so Metrolinx would like to avoid this if possible.
		There is a preference for transparent bridge barriers. The City would like to see the design incorporate aesthetics, and prevent vandalism/graffiti.	These comments would be appreciated, and that the City should formally provide these for incorporation into the EA EPR. If there are specific bridges in locations where special consideration beyond a standard design would be needed, the City should notify Metrolinx.
		The City would like to be involved in bridge barrier options before the RFP begins.	A design excellence review process will be carried out to review design options for enhancing certain aspects of the project design/aesthetics where possible. Currently it is anticipated that up to 3 options for bridge barrier design will be developed (during detailed design) that will go through the design excellence process in consultation with municipalities.
		How far along is Metrolinx in evaluating individual overhead bridges?	Metrolinx is evaluating bridges for vertical clearance and cultural/built heritage. It is not evaluating detailed engineering for each bridge as this will be done during detailed design. If there are specific bridges that are a concern, Metrolinx can examine these. Metrolinx will provide worst-case scenarios typical for a road and pedestrian bridge.
		Do highways need to meet same standards for bridge barriers?	Yes, because in some cases pedestrians may be on the highway. For example, if a car breaks down or there are special events like marathon runs.
		There are plans to construct a new pedestrian bridge between Duoro St. and West Battery Rd., which is a funded project. The City provided Metrolinx with details for the project.	Comments noted and will be considered during detailed design as appropriate.
		Are bridge barriers required on Old Weston Road north side given distance to corridor? Couldn't the public walk around?	Bridge barriers would still be required to ensure public safety, since we cannot anticipate all potential behaviors.
		The Islington Ave. [bridge] may be a candidate for rehabilitation and installation of concrete crash barriers. Future discussion/coordination may be needed.	Comments noted and will be further discussed as part of bridge TAC meetings
		Regarding the Strachan Avenue Bridge, the Under the Gardiner EA is in progress, and a coordinated approach to both projects is recommended.	Comments noted.
		Has the Project team engaged Metrolinx Design Excellence?	Metrolinx is going through the process similar to other EAs. The Project team would appreciate feedback from the City on bridges with important views, and areas where aesthetics need to be considered.
		Would Metrolinx consider horizontal shrouds instead of bridge barriers? There is a preference for transparent bridge barriers, especially adjacent to Fort York. Urban Design staff would like some visibility to tracks.	Metrolinx would prefer not to use shrouds which have drawbacks, for example ice and snow buildup can lead to electrical shorts. Metrolinx will develop a few options for bridge barriers, including an option specific to heritage structures, and transparent materials can be incorporated within the design. The designs for bridge barriers will not be finalized until the detailed design stage.
		What is the minimum vertical clearance? The City would like to be made aware of conflict bridges and where bridges might be raised.	The desired minimum vertical clearance for examining vertical clearance solutions is 6.997m – 7.4m. This represents the lowest clearance where OCS wires can fit. Clearances are currently being confirmed by a LIDAR survey, and the EA will have preliminary solutions for conflict bridges. Metrolinx will provide updates on conflict bridges at future TAC meetings.
		Does the height of the bridge influence what attachments are required?	Height of the bridge is one aspect to be considered; analysis must also examine the parabolic arc of the OCS wire, track geometry, and other factors.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via April 14, 2016 Meeting		Is an additional track being planned for Lakeshore West? Would a future 5th track extend west from Dufferin?	Metrolinx would protect for a new fifth track (currently there are four); however, no new tracks are planned, and there is no funding or EA approval for a 5th track.
		Regarding the Dufferin, Dunn, Jameson and Dowling bridges, would Metrolinx complete the EA for the bridge works using the TPAP?	This would require further discussion, as it is not an easy answer. This depends on engineering solutions recommended in the feasibility study.
		An AFP is in progress for the Gardiner Expressway P3, with an expected duration of 2018-2025. This will require further coordination between Metrolinx and the City.	Agreed.
		Regarding the Dufferin St. Bridge: <ul style="list-style-type: none">7.01 m is the required vertical clearance for the permanent bridge at Dufferin St. as per the approved 2011 Municipal Class EA. The City requested confirmation that the bridge permanent design can proceed using 7.01 m clearance.Part of the approved 2011 Municipal Class EA included moving the Dufferin Gateway Arch further south and removing both abutments to accommodate future track expansion.There is a high-pressure watermain located on Dufferin St. which supplies Exhibition Place.Fibre-optic cables are buried just underneath the track ballast at Dufferin. These were moved at the Dunn and Dowling bridges by the City prior to bridge removal.	MX is aware of the clearance issue and will respond to city following completion of feasibility study (currently in progress).
		The City has no plans to replace the current Jameson bridge. It was rebuilt in the 1960s.	Comment noted. This will be considered as part of the feasibility study.
		The Dowling Ave. bridge must be replaced prior to electrification. A temporary bridge was installed due to unknowns related to Metrolinx plans. The abutments do not have much remaining life and the temporary truss structure will not carry solid barriers.	This will be considered as part of the feasibility study.
		During the 1994 rehabilitation of the Sunnyside Pedestrian Bridge, a vibration issue was corrected. The bridge may not be able to support additional vertical loading from solid barriers.	This will be considered as part of determining the required bridge modifications for electrification.
		Since the Islington Avenue Bridge is over 11m high, are bridge barriers still required?	MX is confirming where barriers will be required. They may still be required at this bridge to stop objects from being thrown onto the rail corridor and OCS.
		An EA was already completed for the Dufferin Bridge Replacement with a minimum vertical clearance (MVC) of 7.01 m. Why is such a feasibility study being performed at this site?	The MVC requirement was changed to 7.2 m based on recent OCS refined analysis at these 4 sites. Consequently the EA will need to be amended, showing the differences of impacts. It was noted that the impacts from the presented concept would be less than those in the current EA.
		A previous analysis was performed on the Dufferin Street Bridge’s existing abutments showing them to be unstable, requiring the existing through-girders to remain in-place to maintain the existing stability of the abutments.	Metrolinx requested this information in order to consider this condition and appropriately include it in the feasibility study.
Via April 26, 2016 Meeting		Regarding the Dufferin, Dunn, and Dowling Bridges: <ul style="list-style-type: none">These 3 bridges are considered to be “temporary” and that the existing abutments are in poor/“punky” condition and essentially reached the end of their useful life, to the point that they are considered acceptable only in the short-term for the current	The feasibility study will consider the City’s comments.
Via April 26, 2016 Meeting			
Via April 26, 2016 Meeting			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via April 26, 2016 Meeting		temporary bridges. The City would not consider them reusable in any form for a longer term or permanent condition. <ul style="list-style-type: none">Morrison Hershfield’s previous work for the City on these and other bridges is considered public information and can be used and incorporated into the feasibility study and other related projects.The modular truss spans on Dufferin, Dunn, and Dowling aren’t capable of accommodating the required protective barrier, or resisting the resulting additional induced forces. Also, it is expected that these three bridges will be completely replaced relatively soon, irrespective of the Electrification project. It would be beneficial to perform the replacement work before the tracks are electrified.	
		Regarding the Dunn Avenue Bridge, Toronto Hydro has temporarily moved its aerial lines to the west of the bridge to allow the City to replace the superstructure with the modular truss spans, and it is expected to be moved to a permanent location (aerial/on bridge) during the bridge’s replacement. The City noted that it prefers to limit roadway grades to 6%, compared to the TAC 8%.	The feasibility study will consider the City’s comments.
		The feasibility study should consider the 2010 Western Waterfront Master Plan.	Metrolinx will consider the Master Plan in its feasibility study.
		Regarding the Dowling Bridge: <ul style="list-style-type: none">The permanent configuration/alignment will not be the same as the existing. Although it is not finalized, it is expected to be more or less perpendicular to the tracks.Its design could incorporate an increased vertical clearance to 7.2 m.	The feasibility study will consider the City’s comments.
		A Phase 1 Concept Study for waterfront LRT in the area of the Dowling Bridge is being undertaken. A future discussion is required.	Metrolinx will consider the Phase 1 Concept Study in its feasibility study.
		How will maintenance [of bridge barriers] work on City-owned structures?	In most instances there is no way to definitively determine ownership. Generally the City is responsible for Road infrastructure and Metrolinx will be responsible for railway infrastructure. The Project Contractor would be responsible for maintenance of the barriers.
		Following receipt of Cultural Heritage Evaluation Reports (CHERs) from Metrolinx, the City will add any City-owned heritage properties to the City’s Heritage Register. There is no definitive timeline for adding properties to the Heritage Register and this can be completed as the design progresses and post-EA.	Comments noted.
		Will there be enough level of detail to adequately determine impacts to heritage resources as part of the EA? There is a concern if there are too many unknowns or impacts to be addressed by Project Contractor.	The Cultural Heritage Screening Report (CHSR) will identify potential heritage properties and potential impacts will be documented within an EA Impact Assessment Report. Metrolinx will be completing CHERs prior to the Notice of Completion in order to identify heritage attributes for incorporation within the EPR. In addition, the design team has undertaken a review of all overhead bridges to determine attachment requirements (OCS and bridge barriers) as well as structures with vertical clearance challenges. Proposed solutions to achieve required vertical clearance (i.e., raise bridge, lower tracks, replace bridge, etc.) are currently being evaluated for further discussion with City staff as part of the ongoing TAC meetings. Metrolinx would like to reach an agreement with the City on conceptual design during the EA.
Via March 29, 2016 Meeting			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via November 4, 2016 Meeting		What is the proposed order of routes for electrification? Will the Regional Express Rail increase services start with an increase in diesel trains, before moving to electrification?	Electrification is planned to take place over a 10 year timeframe; the phasing plan is a work in progress and will initially involve testing of rolling stock on a commissioning track. Metrolinx is currently in the process of expanding diesel-based service prior to the full implementation of electrified service.
		I would like it noted in the minutes that a question was raised regarding the use of canopies to protect OCS wires as opposed to vertical bridge barriers, particularly in locations where the bridge provides notable views. In many cases the pedestrian bridges offer such views. It was pointed out that the structures of the pedestrian bridges may not support the addition of vertical barriers anyway. As I recall the response to the canopy option made some reference to rain or snow melt dripping from the canopy, which of course occurs anyway from the existing bridge structures, so is a very weak argument for not considering this option.	Please see the attached revised minutes from the November 4th 2016 City of Toronto TAC meeting, and separate post meeting note in response to your comments below. Metrolinx acknowledges that the topic of horizontal shrouds was raised during the November 4, 2016 TAC meeting with the City of Toronto, and offers the following response. Public and operational safety is of the utmost importance. It is a requirement of electrification to protect both train operations and the public by providing adequate separation between accessible surfaces and energized parts. The purpose of a bridge protection barrier is to protect pedestrians/infrastructure users within the public right-of-way on bridges from direct contact with adjacent live parts of the Overhead Contact System (OCS) for voltages up to 25 kV to ground. These barriers also protect against damage to the OCS infrastructure by providing an obstacle for any debris that may be thrown onto the railway from overhead.
		I would also like to reiterate the city's desire to collaborate on the design of bridge barriers. These new barriers have significant visual impacts within our community and would like to be part of the process as these elements take shape.	Metrolinx is developing a Standard for Building over the GO Corridor. This standard is based on codes and industry standards for building over electrified railways. These codes require that any accessible surface must be guarded to “remove the liability of dangerous contact or approach by persons or objects” (CSA 22.1-15). The industry standard in North America is a 2.0 m high vertical, solid barrier (no gaps or perforations) to mitigate the risk of a person from intentionally or unintentionally coming into contact with the electrified system. Having said this, Metrolinx understands the importance of maintaining the visual landscape in the City of Toronto. As such, vertical barriers were assessed as part of the Visual Impact Assessment Report prepared as part of the GO Rail Network Electrification TPAP. Metrolinx Environmental Assessment and PSOS teams are working together to ensure that comments are captured in the Environmental Project Report (EPR) and/or PSOS. A process for reviewing design treatments/options for enhancing the aesthetics of bridge barriers and maintaining existing views where possible will be discussed with the City at the upcoming TAC meetings. Metrolinx will collaborate with the City of Toronto to develop options for vertical bridge barriers however it should be noted that the designs for bridge barriers will not be finalized until the detailed design stage. Options for design treatments/options for enhancing the aesthetics of bridge barriers and maintaining existing views, where possible, will be made in consultation with relevant municipalities.
		We strongly advise that greater detail of the Electrification EA be included and considered by Metrolinx in the Environmental Assessment for the USRC so that stakeholders, public, and City staff may have a clearer understanding of the actual (or "complete") effects adjacent to this corridor. A "piecemeal" approach to planning major infrastructure upgrades in the same corridor makes it difficult to ascertain cumulative effects, which in many cases will be greater than the sum of effects from each individual infrastructure project.	The GO Rail Network Electrification TPAP is a large complex project spanning the majority of Metrolinx’s rail corridors. Be assured that the Metrolinx USRC team is closely coordinating the work of this project with the team leading the GO Rail Network Electrification TPAP, including assessment of environmental impacts, locations of OCS and retaining walls. Information as it relates to both the USRC East Enhancements and Electrification projects will be discussed with the City as part of upcoming Technical Advisory Committee meetings for the USRC East Enhancement TPAP project.
Union Station Rail Corridor (USRC) – East Enhancements Project =City		The ongoing Lower Yonge Precinct MCEA is currently contemplating a new bridge/tunnel that will connect Cooper Street to Chruch Street. Coordination works are required for the USRC East Enhancements TPAP, Mx Electrification TPAP and LYP MCEA projects, specifically regarding the planned bridge/tunnel. Draft Plans of the bridge/tunnel design will be circulated to Metrolinx under a separate cover.	The location of electrification infrastructure is dependent on the location of track switches within the USRC. Therefore, it might not be possible to avoid the Cooper Street tunnel alignment. That said, nothing we do with the electrification project will preclude the tunnel construction. If there is a requirement for OCS poles in the Cooper Street tunnel alignment then the future structure will need to incorporate the OCS foundations.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Comments on the Technical Advisory Committee Meeting #1		<p>Combined with the implementation of electrification infrastructure components, we anticipate that a permanent removal of mature vegetation, erection of retaining wall(s) to the height of the rail bed, and potentially, noise mitigation and/or crash wall above the existing rail bed grade at the northern Metrolinx property border could be required in most if not all portions along a 1.8 km segment. Noise and vibration impacts to existing residences and proposed developments adjacent to the corridor are currently unknown.</p> <ul style="list-style-type: none">Any future noise mitigation, retaining wall areas and/or crash walls must reflect the highest levels of design excellence and a series of urban design principles should be created in collaboration with City of Toronto and Waterfront Toronto staff. Mitigation in these areas that could address inconsistencies with City policy are as follows: o Potential to maximize sunlight on public realm elements; o Stepped/terraced retaining/noise wall design; o Vegetation reinstatement where possible (e.g. not in conflict with the electrification); o Public Art; and o Rail dampers.	<p>Metrolinx is committed to working with the City of Toronto to identify design solutions that align with the highest levels of design excellence.</p> <p>With respect to the north retaining wall, we are currently developing General Arrangement drawings and we intend to have further discussions specific to the retaining wall requirements and design principles with City staff as part of upcoming Technical Advisory Committee meetings for the project.</p> <p>With regard to the vegetation clearing zone required for electrification, this information has been shared with the City of Toronto as part of a Draft GO Rail Network Electrification Environmental Project Report (EPR) circulation in January 2017.</p> <p>New trees cannot be planted within the established vegetation clearing zone. A vegetation clearing zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on either side of each rail corridor. Vegetation clearing is required to:</p> <ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue; and,Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment.
		<p>It is staff understanding that potentially, retaining or crash walls wall could be erected on the south side of the rail corridor, and that mature vegetation may not be possible due to potential conflict with proposed future corridor electrification components.</p> <p>Public Realm Improvements associated with the Gardiner East EA have been identified adjacent this area. Extensive coordination of these plans will be required. • Further, any retaining walls and/or crash walls should be consistent with the CWSP policies regarding design excellence and a series of urban design principles should be created in collaboration with City of Toronto and Waterfront Toronto staff. • As mentioned, the project schematic used by Metrolinx to date is unclear in showing the relationship of the proposed E7/E8 to the adjacent property/infrastructure east of Lower Jarvis Street. A more detailed schematic or design for this area is required to understand any implications.</p>	<p>Metrolinx is committed to working with the City of Toronto to identify design solutions that align with the highest levels of design excellence. We look forward to building our understanding further of the potential impacts the USRC East Enhancements project may have to the public realm plan for the Gardiner East EA. For our next TAC meeting it would also be helpful to receive further information from the City on projects such as the latest design plans for the Gardiner Realignment. Metrolinx intends to coordinate closely with the City to develop appropriate mitigation strategies that align with public realm concepts associated with the Gardiner East EA.</p>
		<p>Due to proximity to the corridor, staffs are very concerned with respect to the potential extent of impact to the Caroline Co-op between Sherbourne and Parliament Streets, including Tom Longboat Lane which provides access to residential garages. Please provide more detailed designs for this area at their earliest availability.</p>	<p>As part of the TPAP, Metrolinx has a targeted engagement strategy for consultation with the affected Co-ops to discuss the project. As previously noted, we are currently developing our preliminary design drawings for this area which will first be provided to the City for initial comment.</p> <p>A Noise and Vibration Impact Assessment along the Union Station Rail Corridor was conducted as part of the GO Rail Network Electrification TPAP. As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, mitigation of the sound levels was investigated and evaluated for technical feasibility in locations that showed a noise increase above 5 dB from the existing service and the planned future service. A copy of this report and the details of the assessment will be made available to the City in January 2017 as part of a Draft GO Rail Network Electrification Environmental Project Report (EPR) circulation. In addition, as part of the USRC East Enhancements TPAP, a Noise and Vibration Impact Assessment Study is also underway and results of this study will be shared with the City once the draft report is available.</p> <p>The need for implementing noise mitigation at all locations identified in the GO Rail Network Electrification TPAP Noise & Vibration Modelling Reports will be further reviewed and assessed in detail as part of detailed design. This further analysis will consider the administrative, operation, economic and technical feasibility of the mitigation options. As part of the TPAP, Metrolinx undertakes consultation with municipalities and local residents to provide updates on decisions made and implementation of any proposed noise mitigation measures.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Toronto Transit Commission	Pre Planning	<p>City Planning (Scarborough District) staff should be involved in the selection of bridge screening materials. Generally, pedestrian only bridges are significantly narrower than vehicular bridges and the impact of two-metre high solid walls on both sides of such pedestrian bridges would be greater than on vehicular bridges. Bridge screening materials should have transparency to maintain visibility and a sense of openness on the pedestrian only bridges.</p> <p>It should be noted that the screening materials for bridges include walkways (such as bridges at Eglinton Avenue East, Lawrence Avenue East and Ellesmere Road along the Stouffville corridor) should also be upgraded and interspersed transparent sections should be used to provide some visibility from the bridge and add interest.</p>	Comment noted, and this information was considered in the ongoing discussions with the City of Toronto TAC.
City of Vaughan	Pre Planning	<p>We are currently well into the Secondary Plan process for our Block 27 New Community Area. Block 27 is one of two New Community Areas planned for the City of Vaughan. It is to be planned to be a complete community with residential and local population-serving retail and commercial uses, community facilities, and to achieve a unique sense of place and high quality design.</p> <p>The Regional Official plan and Vaughan Official Plan 2010 land use schedules identify a potential GO Station in the northeast portion of Block 2, just south of Kirby Road. The GO Station will be defining feature of our New Community Area and beyond. As such it will be planned in accordance with the transit supportive densities, quality urban design, and superior connectivity principles established in the Metrolinx Mobility Hub Guidelines.</p> <p>On April 4, 2016, Vaughan Finance, Administration and Audit Committee directed that a further more detailed sub-study be undertaken for the proposed GO Station/Local Centre Precinct as part of our Secondary Plan Study process. The proposed site for the paralleling station in Block 27 forms part of the GO Station/Local Centre Precinct land on our emerging Land Use Concept Plan for the New Community Area. The placement of the paralleling station and related infrastructure on the large parcel fronting directly onto the west side of Keele Street, is not consistent with the City's objectives to achieve transit supportive densities in the GO Station/Local Centre Precinct; high quality design; and, active vehicular connectivity to the future GO Station.</p> <p>Another concern respecting the proposed location of the paralleling station is that it is immediately west of the City's future North Maple Regional Park in Block 20. The city is currently initiating the Master Plan Study for this park, for which the main entrance is to be located on the east side of Keele Street, directly across from the proposed paralleling station site. As you can appreciate, the juxtaposition of these two land uses is considered to be inconsistent with the land use regime that the City is planning for. This alternative is not supported, but we are willing to work with Metrolinx to identify an appropriate option.</p>	The Maple PS site was re-located to address concerns from the City of Vaughan regarding Block 27 development plans.
Town of Whitby Fire Department	Pre-Planning	Request for training information (PowerPoint or video) to bring forward to fire crews in regards to the Electrification program. Our Training Division is proactive when it comes to training our firefighters on pre-planning new buildings or businesses coming into Whitby that may have area's or processes our firefighters may come into contact with should they have to respond to an emergency at your facility.	Metrolinx recognizes the importance of keeping local emergency services informed of new and on-going projects to ensure there is a high level of understanding of their operational activities, infrastructure and facilities. As part of the detailed design phase (to commence following the EA), training materials will be developed and made available to the Town and other municipalities as appropriate to ensure that EMS are properly trained and prepared prior to implementation of the electrification infrastructure.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Region of Durham	Pre-Planning	Requested details/drawings/specifications on the support system for the OCS (where it would connect to the bridge structure), the flash plates and the bridge screening/modifications to the barrier walls on the bridge. This included size and weights of supports/plates, locations of plates under the bridge, and how the bridge screening will be connected to the structure.	The information available at the time of this request was sent to the Region of Durham via e-mail on April 28, 2016. The design of bridge attachments and associated drawings were still in a preliminary stage and details will be provided to the Region once available.
		We would prefer the bridge screening to be transparent or translucent, and not opaque. We need to ensure that sight lines are maintained for vehicles and constructing opaque/solid barriers that are twice as tall as existing will greatly reduce sight lines.	<p>Comments noted, and will be taken into consideration as part of the TPAP/conceptual design phase. Following the TPAP, detailed design of the electrification system will be undertaken. This process will entail continued consultation with municipalities in relation to the final design of the proposed bridge screening. In addition, MTO sight line standards will be complied with to ensure safe operation of motorized vehicles and that a design excellence review process will be carried out to review design options for enhancing certain aspects of the project design/aesthetics where possible.</p> <p>Currently it is anticipated that up to 3 options for bridge barrier design will be developed (during detailed design) that will go through the design excellence process in consultation with municipalities. Should the municipality decide to enhance these standard design options, it will be at their own cost. These options may include but not be limited to the following:</p> <ul style="list-style-type: none">• Design Option 1 – suitable for multilane, restricted access highways and non-visually sensitive locations• Design Option 2 - a standard post and panel design which can be customized to suit the application (i.e. clear, painted etc.)• Design Option 3 – for structures of heritage value or sensitivity
		Will there be any bridge modifications if the railway is over the road (for example at Church Street or Victoria Street)? If yes, what modifications could we expect to see?	Rail over road bridge structures will not require the same level of modifications as road over rail structures. In most cases where the railway goes over the road, there are negligible impacts on the road underneath since the OCS support structures will be on either side of the structure and the catenary will span across the bridge. In situations where the rail bridge is longer than the maximum catenary span (~60m) OCS supports will be required on the bridge, with no impact to the road below.
		<p>Durham staff commented on a Draft EPR for Electrification back in January 2017. We were told that the Notice of Commencement was to be issued sometime in March, however, I haven't received anything as of yet.</p> <p>Can you please provide me with any updates you have? We are putting an information report together for Regional Council and this information would be useful.</p>	<p>We are working towards beginning the formal 120-day Transit Project Assessment Process (TPAP) as soon as possible. We continue to complete our consultation with stakeholders and due diligence with regulatory agencies. The Project Team is currently in the process of reviewing stakeholder comments, and drafting responses. As you can imagine, with a network-wide project, this is taking a bit longer than we expected. Stay tuned for the timing of the TPAP Notice of Commencement. For further information on the project please visit: www.gotransit.com/electrification</p>
Township of King	Pre-Planning	Apparently there are areas within the Township of King, adjacent to the rail corridor, where noise attenuation walls are not planned even though the noise level after the completion of the project will increase by more than 5 dB. I would appreciate receiving a copy of the noise study that was prepared for this project for our information and review.	<p>Attached you will find the municipal package that we sent to you in early November 2016. This contains the roll plan that highlights the areas that were assessed to have a 5 dB or greater increase in noise and requires noise mitigation to be investigated. The areas with a blue line illustrate the locations with an increase in noise of 5 dB or more and where noise mitigation is feasible. The orange lines show areas with an increase above 5dB but noise mitigation is not technically feasible. To clarify, 'not technically feasible' does not mean that noise attenuation is not planned, but refers to the fact that a 5 metre tall noise wall would not reduce noise by at least 5 dB. Other solutions may be required for these areas. Please note that this is a preliminary study which will be refined when the Electrification project enters detailed design. We were also recently contacted by Councillor Schaefer regarding this topic.</p> <p>In early 2017 Metrolinx will be providing you with a copy of the draft Environmental Project Report for Electrification, which will include information on noise and vibration impacts and mitigation.</p> <p>Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Halton Region	Pre-Planning	<p>I attended the public meeting on electrification held at Loretto College on Tuesday, November 15 where improvements to the Barrie corridor were highlighted. I was wondering if specific information was available for the Lakeshore West improvements as well, similar to the “What is Happening Near You?” handout.</p>	<p>Metrolinx is planning to electrify the GO network including the Lakeshore West rail corridor. To learn more about what was presented at the November 29th meeting in the City of Mississauga, please visit metrolinxengage.com.</p> <p>At this time, there is one confirmed grade separation at the Burloak Drive road-rail crossing. We are in the early stages of this project. As well, we’re making good progress on building the new Burlington GO station. Work will continue into 2017 to ensure that the station is fully functional.</p> <p>Working directly with the City of Burlington, Metrolinx proposes to expand parking at the Aldershot GO station in phases: 400-500 spaces in Phase 1, and potentially another 450-500 spaces in Phase 2, depending on demand and stakeholder support. Phase 2 expansion allows for potential future Transit Oriented Development that align with the City of Burlington’s Master Planning work.</p> <p>At the Bronte GO station, we’re rehabilitating the trains platform, expanding the south parking lot, repaving the north parking lot, repairing platform canopies, relocating the north bus-loop to increase capacity and greater ease of travel, and installing a platform snow-melt system. We anticipate opening the south platform in the coming weeks.</p> <p>To stay up to date on what is happening on the Lakeshore West rail corridor, please visit: http://www.metrolinx.com/en/regionalplanning/rer/rer_lsw.aspx</p>
Whitchurch-Stouffville	Pre-Planning	<p>Staff of the Town of Whitchurch-Stouffville have no objection to the proposal. We however ask that the following Official Plan policies and staff comments be considered.</p> <p>Official Plan Policies</p> <ul style="list-style-type: none">• Community Vision, Principles and Objectives• Change in the community of Stouffville should be undertaken in a manner which is sustainable and which will preserve and enhance the integrity of the natural environment of the community.• Oak Ridges Moraine• Planning decisions in the ORMCP shall conform to the objectives of the ORMCP. All development and site alteration will be prohibited in key natural heritages features and the related minimum vegetation protection zones with the exception of certain limited uses.• It is the objective of the Town to maintain and enhance existing woodlots, hedgerows and trees wherever possible and to encourage the planting of new woodlots and trees in all areas of the Town.• Community Character Strategy• Noise sensitive properties should be buffered	<p>Various Official Plan policies were considered as part of the GO Rail Network Electrification TPAP Land Use & Socio-Economic Impact Assessment. A copy of this report has been made available to the Town as part of the Draft Environmental Project Report (EPR) circulation.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx																		
		<p>Tree Removal</p> <p>Consideration should be given to the potential of new trees being planted on private property but within the vegetation removal zone. A vegetation prohibition and structure prohibition easement may be required. What has been completed for other electrification projects in this regard?</p> <p>The Town of Whitchurch-Stouffville does not currently have a review process or permit process for the removal of trees on private property. It will be a problem for the Town to provide any approval to Metrolinx for a blanket authority to remove trees. We would be granting an approval without consulting the private land owners and without any authority from Council which could be problematic.</p> <p>The Town of Whitchurch-Stouffville proposes a tree compensation fee in our 2017 fee By-law based on the replacement cost of \$5.00 per millimeter diameter at breast height for removal of trees due to development or building activity. This would apply to private trees and public trees. This fee could be applied, and the revenue would come to the Town to fund our own tree replacement and maintenance programs. Metrolinx may still be required to compensate the individual property owner.</p>	<p>To clarify, trees will not be planted within the established vegetation removal zone. The tree/vegetation removal zone is a safety requirement to ensure the safe operation of an electrified rail service.</p> <p>As part of the TPAP, Metrolinx partnered with conservation authorities such as the Toronto and Region Conservation Authority (TRCA) and local municipalities to develop a standardized approach to tree/vegetation compensation measures to offset the tree/vegetation removals that will be required, and to support a sustainable and vibrant tree canopy across the region. The draft compensation protocol was presented to conservation authorities and municipalities at a workshop held October 11, 2016. The Town of Whitchurch-Stouffville will continue to be consulted with in the development of the protocol.</p> <p>Following the TPAP, Metrolinx will finalize this protocol for implementation during the detailed design and construction phases. The overarching goal will be to develop a compensation strategy that can be applied system-wide to all Metrolinx projects.</p> <p>The tree compensation protocol will address items such as tree and vegetation removal from within the rail corridor, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies.</p> <p>Permits and approvals will be obtained as warranted.</p> <p>Key Components Of Proposed Metrolinx Tree/Vegetation Compensation Protocol</p> <table><tr><th>Type of Tree</th><th>Current Metrolinx Practice</th><th>Proposed Metrolinx Protocol</th></tr><tr><td>Metrolinx Right of Way Trees</td><td><ul style="list-style-type: none">Limited need for tree removalConduct routine maintenance activities (e.g. removal of overgrowth and brush)</td><td><ul style="list-style-type: none">Undertake a community restoration/greening enhancement projects to compensate for loss of trees within right of wayQualitative approach</td></tr><tr><td>Private Property Trees</td><td><ul style="list-style-type: none">Apply for application permits and follow relevant municipal tree removal compensation requirementsRemove and compensate for trees with permission from landowner</td><td><ul style="list-style-type: none">Work with municipalities to establish tree removal compensation frameworkWork with private landowners to ensure that any tree removal impacts are properly mitigated and compensated for</td></tr><tr><td>Municipal Trees</td><td><ul style="list-style-type: none">Apply for application permits and follow all relevant municipal tree removal compensation requirementsRemove and compensate for trees as per municipal requirements</td><td><ul style="list-style-type: none">Work with municipalities to establish tree removal compensation framework</td></tr><tr><td>Natural Heritage Trees</td><td><ul style="list-style-type: none">Work with Conservation Authority and/or municipalities to obtain appropriate permits and follow requirements</td><td><ul style="list-style-type: none">Develop and adopt an ecosystem compensation approach to tree removal with the help of local Conservation AuthoritiesEnsure no net loss to valuable natural heritage systems</td></tr><tr><td>Species at Risk</td><td><ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required</td><td><ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required</td></tr></table>	Type of Tree	Current Metrolinx Practice	Proposed Metrolinx Protocol	Metrolinx Right of Way Trees	<ul style="list-style-type: none">Limited need for tree removalConduct routine maintenance activities (e.g. removal of overgrowth and brush)	<ul style="list-style-type: none">Undertake a community restoration/greening enhancement projects to compensate for loss of trees within right of wayQualitative approach	Private Property Trees	<ul style="list-style-type: none">Apply for application permits and follow relevant municipal tree removal compensation requirementsRemove and compensate for trees with permission from landowner	<ul style="list-style-type: none">Work with municipalities to establish tree removal compensation frameworkWork with private landowners to ensure that any tree removal impacts are properly mitigated and compensated for	Municipal Trees	<ul style="list-style-type: none">Apply for application permits and follow all relevant municipal tree removal compensation requirementsRemove and compensate for trees as per municipal requirements	<ul style="list-style-type: none">Work with municipalities to establish tree removal compensation framework	Natural Heritage Trees	<ul style="list-style-type: none">Work with Conservation Authority and/or municipalities to obtain appropriate permits and follow requirements	<ul style="list-style-type: none">Develop and adopt an ecosystem compensation approach to tree removal with the help of local Conservation AuthoritiesEnsure no net loss to valuable natural heritage systems	Species at Risk	<ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required	<ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required
Type of Tree	Current Metrolinx Practice	Proposed Metrolinx Protocol																			
Metrolinx Right of Way Trees	<ul style="list-style-type: none">Limited need for tree removalConduct routine maintenance activities (e.g. removal of overgrowth and brush)	<ul style="list-style-type: none">Undertake a community restoration/greening enhancement projects to compensate for loss of trees within right of wayQualitative approach																			
Private Property Trees	<ul style="list-style-type: none">Apply for application permits and follow relevant municipal tree removal compensation requirementsRemove and compensate for trees with permission from landowner	<ul style="list-style-type: none">Work with municipalities to establish tree removal compensation frameworkWork with private landowners to ensure that any tree removal impacts are properly mitigated and compensated for																			
Municipal Trees	<ul style="list-style-type: none">Apply for application permits and follow all relevant municipal tree removal compensation requirementsRemove and compensate for trees as per municipal requirements	<ul style="list-style-type: none">Work with municipalities to establish tree removal compensation framework																			
Natural Heritage Trees	<ul style="list-style-type: none">Work with Conservation Authority and/or municipalities to obtain appropriate permits and follow requirements	<ul style="list-style-type: none">Develop and adopt an ecosystem compensation approach to tree removal with the help of local Conservation AuthoritiesEnsure no net loss to valuable natural heritage systems																			
Species at Risk	<ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required	<ul style="list-style-type: none">Endangered Species Act registration or permit for Butternuts will be obtained from MNRF as required																			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			Thank you for your comments and recommendations regarding tree compensation. As mentioned above, tree compensation will meet or exceed relevant municipal by-laws and/or policies, and permits and approvals will be obtained as warranted. We will share your comments with our tree compensation group for consideration.
		<p>Noise Mitigation</p> <p>Why is noise mitigation deemed not feasible at Reeves Way Boulevard?</p> <p>Why is noise mitigation not required at Millard Street and adjacent to Ironwood Crescent and Church Street?</p> <p>Provide more discussion and alternatives for whistle cessation.</p> <p>Request that Metrolinx fund municipal works required to implement whistle cessation.</p> <p>Request that Metrolinx remove the requirement for municipalities to sign an Anti-whistling Insurance Agreement if whistle cessation is implemented at level crossings.</p>	<p>As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, noise impacts from the future GO Transit rail traffic were expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels. For both the diesel Regional Express Rail (RER) service and the electric RER service, the pre-project noise levels were taken to be the existing noise levels, associated with present-day rail traffic on the corridor.</p> <p>The desirable objective as defined in the MOEE/GO Transit Protocol is that the daytime equivalent sound level (LEQ) (16-hr, 0700h-2300h) produced by future rail service operation of the project under assessment should not exceed the higher of:</p> <ul style="list-style-type: none">• The daytime ambient sound level, combined with the sound level from existing rail activity; or• 55 dBA LEQ (16-hr). <p>Furthermore, the nighttime LEQ (8-hr, 2300h-0700h) produced by the future GO Transit rail service operation of the project should not exceed the higher of:</p> <ul style="list-style-type: none">• The nighttime ambient sound level, combined with the sound level from existing rail activity; or• 50 dBA LEQ (8-hr). <p>According to the MOEE/GO Transit Protocol, the Adjusted Noise Impacts associated with the rail operations shall be rated with respect to the objectives as follows:</p> <ul style="list-style-type: none">• Insignificant: Adjusted Noise Impacts between 0 and 2.99 dB;• Noticeable: Adjusted Noise Impacts between 3 and 4.99 dB;• Significant: Adjusted Noise Impacts between 5 and 9.99 dB; and• Very significant: Adjusted Noise Impacts above 10 dB. <p>In cases where the Adjusted Noise Impact at a receptor is considered “significant” or “very significant” mitigation of the sound levels was investigated and evaluated for technical feasibility. Technical feasibility refers to the ability of a mitigation measure to achieve a significant noise reduction (at least 5 dB) at the intended impact locations.</p> <p>The receptor to the west of the Stouffville rail corridor along Reeves Way Boulevard showed a noise increase above 5 dB, thus triggering the MOEE/GO Transit Protocol for Noise and Vibration Assessment to consider noise mitigation. Assessment of a noise wall at this location was deemed to be not technically feasible as it would not achieve a noise reduction of 5dB. While a noise wall may not be the most feasible mitigation solution, Metrolinx recognizes the need for noise mitigation and the need for implementing noise</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>mitigation at all locations identified in the GO Rail Network Electrification TPAP Noise & Vibration Modelling Reports will be further reviewed and assessed as part of detailed design. This further analysis will consider the administrative, operation, economic and technical feasibility of the mitigation options. As part of this process, Metrolinx will consult with municipalities and local residents to provide updates on decisions made and implementation of any proposed noise mitigation measures.</p> <p>There are two receptor locations that were assessed near Millard Street, one to the west of the Stouffville rail corridor on the south side of Millard Street and the second along Ironwood Crescent to the east of the rail corridor. The Adjusted Noise Impacts at both receptor locations were found to be insignificant (did not show a noise increase above 5 dB) and thus did not trigger the MOEE/GO Transit Protocol for Noise and Vibration Assessment requirement. As such no further noise mitigation was investigated.</p> <p>Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the MOEE/GO Transit Protocol for Noise and Vibration Assessment. At Metrolinx, safety is our number one priority, and bells and whistles play an important role in keeping people out of harm’s way.</p> <p>Metrolinx is required to follow specific safety rules set by the federal government, through Transport Canada, for sounding bells and whistles. Bells and whistles are used in different ways for different situations and the unnecessary use of them is not permitted.</p> <p>Currently, the Canadian Rail Operating Rules require all trains to whistle as they approach a public at grade crossing. Special exemptions for anti-whistling can be issued, provided that certain conditions are met. This process must be initiated by the municipality to Transport Canada and not Metrolinx.</p> <p>Members of the public can submit a request to the municipality to suspend train whistling in a specific area. Even if whistling is not used at crossings, trains may use their bells as a warning devise at crossings instead. Metrolinx is working on a noise strategy to deal with noise from our operations including reducing bell and whistle noise. Stay tuned for further details as we work through this process.</p>
		<p>Vibration Impacts and Mitigation</p> <ul style="list-style-type: none">Insufficient infonnation is provided regarding vibration impacts and mitigation.What mitigation measures are proposed?Negative effects from vibration due to existing service levels and future service levels remain a concern for the Town of Whitchurch -Stouffville and our residents.	<p>With regards to vibration from GO service, Metrolinx completed a vibration modelling assessment as part of the GO Rail Network Electrification TPAP. Detailed noise and vibration modelling results have been made available to the Town as part of the Draft EPR circulation.</p> <p>The GO Rail Network Electrification TPAP vibration study identifies areas where vibration mitigation will be considered as well as options for mitigating increased vibration levels. Vibration mitigation solutions can include but are not limited to, ballast mats, under sleeper pads or resilient fixation.</p>
		<p>Visual Impacts</p> <ul style="list-style-type: none">What are the visual impacts of the overhead catenary system on the adjacent residential areas?	<p>There will be visual impacts of varying degrees due to the implementation of the Overhead Contact System (OCS), i.e. poles, wires along the rail corridors. Visual impacts were assessed as part of the TPAP and documented in the Visual Impact Assessment Report.</p> <p>During detailed design, efforts will be made to minimize visual effects of the OCS infrastructure as much as possible.</p> <p>The Visual Impact Assessment Report has been available to the Town as part of the Draft EPR circulation.</p>
		<ul style="list-style-type: none">We note that the Proposed Electrification also requires a Parallel Station at 13120 York Durham Line.OPA No. 137 identifies a road crossing of the railway right of way at the south end of Map No. 71. A copy of Schedule ‘F’ to OPA No 137 is attached.	<p>The proposed Lincolnville Paralleling Station (PS) is to be located at 13120 York Durham Line in the Town of Whitchurch-Stouffville. The proposed positioning of the Lincolnville PS site is east of the rail corridor north of the Lincolnville GO station and behind the GO Transit Lincolnville Rail and Bus Facility on a currently vacant part of the lot.</p> <p>Road-rail crossings are important pieces of shared infrastructure with municipalities. Metrolinx is in the process of assessing the existing 185 road-rail crossings across the network as part of an effort, in consultation with municipalities, to determine which, if any, ought to be replaced with an underpass or overpass. Stay tuned for details on the results of this assessment.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Any future rail crossings require a review by Metrolinx through our third-party unit. This review will determine the viability a crossing at this identified location and whether or not it is feasible from a rail corridor perspective.</p> <p>Public and operational safety is of the utmost importance. As such Metrolinx will be reviewing additional security and safety measures as part of an Operations Framework for RER service for at-grade crossings.</p>
York Region	Pre-Planning	With the recent reviews of Metrolinx’s draft EPR documentation for both the GO RER Electrification Program and the Barrie GO RER Expansion Program, the local municipalities have asked if Metrolinx would be able to provide their Clerk’s Office with a hard copy of the Final report for review by the public, as required. Having a hard copy of the report available for review is in keeping with the municipalities’ commitment to be AODA compliant.	As part of the Barrie Rail Corridor Expansion and GO Rail Network Electrification TPAPs, hard copies of the Final EPR will be made available at some viewing locations along the corridor and across the GO Transit network for public review (including the MOECC viewing library and Metrolinx Head Office). At Metrolinx, we have similar commitments to ensure that Final TPAP documents are accessible to anyone interested in reviewing. In addition to the hard copies, electronic copies will also be directly posted on our specific project websites. Further details on the exact viewing locations will be included on the Notice of Completion, triggering the 30-Day Public Review Period. Hope this satisfies the local municipalities requests.
		I've started to review Metrolinx's Electrification TPAP EPR documentation with York Region and municipal staff and noticed that there doesn't appear to be a traffic impact assessment. Will this be forthcoming? If so, when can we expect the document?	<p>A traffic impact assessment has not been conducted as part of the GO Rail Network Electrification TPAP. Potential effects resulting from the construction of the electrification components (e.g., OCS, bridge modifications and TPF’s) are anticipated to be temporary, short-term, localized in nature, and will cease once construction has been completed.</p> <p>A traffic impact assessment was conducted as part of the Barrie Rail Corridor Expansion (BRCE) Transit Project Assessment Process (TPAP), and provided to York Region for review on October 24th, 2016. Comments received from York Region on November 24th, 2016 and January 26th, 2017 are currently under review by the BRCE project team.</p> <p>Metrolinx will coordinate with Municipalities, as appropriate, to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid/minimize interferences to traffic to the extent possible.</p>
		What is the current anticipated date for the Notice of Completion?	<p>The anticipated Notice of Completion dates for both projects are provided below:</p> <p>Network Electrification TPAP - August 18, 2017</p> <p>Barrie Rail Corridor Expansion TPAP - August 8, 2017</p>
		Both the Region and the local municipalities would appreciate as much advance notice as possible regarding viewing locations in the Region. In order to best service our residents and business owners, it would be helpful and appreciated if we could coordinate with Metrolinx any communication about release and public viewings of GO RER TPAP documentation.	Noted.
CONSERVATION AUTHORITIES			
Conservation Ontario	Pre-Planning	Please direct your inquiry and request for comments to the local Conservation Authority.	We can confirm that the Draft EPR document has been circulated to all applicable local conservation authorities.
Toronto and Region Conservation Authority	Pre-Planning	Regarding the Don Yard PS site, there needs to be consideration of the Broadview Avenue underpass, flood protection/mitigation requirements and tying off into the embankment in the design of the retaining wall. A robust water-tight structure and integration are needed.	These elements will be considered as part of the detailed design phase.
		Will you be tapping into existing power or will new power need to be generated?	No new power will be generated. TPFs will connect to existing HONI infrastructure. In some cases HONI is in the process of upgrading their existing infrastructure.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		Does the 7m vegetation clearance zone extend beyond the Metrolinx Right-of-Way (ROW)?	Yes, there are instances where the 7m zone does extend beyond the Metrolinx-owned ROW.
		Will you be building electrification to facilitate the ultimate build out of Metrolinx operations?	Yes, the design of the Electrification Project is protecting for the ultimate build out of Metrolinx operations.
		Will the OCS Impact/Vegetation Removal zone require additional property?	Metrolinx has taken a more conservative approach for the EA. There are engineering solutions that can be implemented to avoid the need to acquire additional property where the zone may fall outside of Metrolinx-owned ROW.
		TRCA would be more concerned with impacts to forest edges and would be interested in reviewing OCS/Vegetation mapping to provide comment and identify potential areas of concern.	This mapping, along with the information contained in the slide deck used at the presentation, was provided to TRCA.
		Is Metrolinx currently compensating for removals on other projects?	Yes, on the Stouffville corridor Metrolinx is currently compensating at a 3:1 ratio, however Metrolinx is interested in having further discussions with TRCA regarding direction/recommendations to establish a standard best practice that could be implemented for this project, as well as across the agency.
		Have any arborist reports been done for UP Express to support this work? Have any other corridor EA Studies been completed that can be used for data?	Detailed tree inventories across the network will not be completed until the detailed design phase for electrification.
		Will there be grading activities within the floodplain?	A high-level Stormwater Management (SWM) study will be completed as part of the Electrification TPAP for the TPF sites. However, it should be noted that there are no anticipated direct impacts to watercourses anticipated as a result of OCS installations and/or bridge modifications.
		How do you deal with the details of tree removals between the Lakeshore East EA and Electrification EA?	Metrolinx noted that it would be preferred that any TRCA comments on removals be provided separately for each project. Metrolinx will clarify which data pertains to which EA project when submitting information to TRCA for review.
		How are you dealing with the other Conservation Authorities?	Meetings are being scheduled to introduce the project in late July/early August 2016. The intent is to develop a proposed compensation standard best practice with TRCA and circulate for other CA buy-in.
		It was noted that TRCA staff are compiling a list of municipal tree by-laws to confirm to the highest standard with respect to tree removals.	TRCA will share this list with Metrolinx once complete.
Lake Simcoe Region Conservation Authority	Pre-Planning	TRCA inquired about construction staging areas for electrification.	Construction staging areas are not known at this time and will be determined by the Project Contractor during detailed design.
		<p>It does appear that [Gilford PS] Alternative 2 and 3 are within the floodplain of various creeks in our watershed. We would encourage the proponent to identify options that are not within the floodplain to be consistent with Section 3.1 of the Provincial Policy Statement directing development outside of flooding and erosion hazards. If a suitable site cannot be identified outside of a floodplain for this development, it does appear that Alternative 3 may be more suitable than Alternative 2 from a natural heritage perspective, given the proximity of Alternative 2 to a larger, more sensitive and natural watercourse. We trust that an evaluation of the potentially impacted natural heritage features and natural hazards will be included in your selection of the appropriate site for this development.</p> <p>Although a permit through the Conservation Authorities Act may not be required for work undertaken by Metrolinx, we recommend adherence to the LSRCA Guidelines for the</p>	<p>This information was considered during the process of identifying the preferred facility site locations. The identification of recommended alternative facility sites was a multi-step process whereby several technical/engineering, natural environmental, land use/socio-economic, property, etc. criteria were applied and considered. Consideration of natural environmental features in the vicinity of the alternative facility sites was one of the criteria applied as part of identifying the recommended facility sites. The impact assessment phase further analyzed and assessed impacts and continued consultation with various Conservation Authorities such as the LSRCA to review environmental effects and proposed mitigation measures.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		Implementation of Ontario Regulation 179/06 for any development proposed within a floodplain.	
Central Lake Ontario Regional Conservation Authority	Pre-Planning	How are floodplains considered with respect to siting TPFs?	Existing floodplains are being considered in the design; it should be noted that the Tap/Traction Power Facilities will be built such that the finished floor (and hence all equipment) will be set at a minimum above the 100-year floodplain. For flood-proofing of sites, the facilities will be built 0.3m above the floodplain. Best practices for site access will be implemented during construction and operations. Additional more detailed SWM analyses will be undertaken as part of detailed design, and relevant Conservation Authorities will be further engaged in this process as appropriate. ⁷
		Is the footprint [of the TPF] anticipated to extend beyond minimum footprint noted?	Access routes are required in addition to the minimum footprints of the TPFs.
		The ERMF berm is against provincial policy. Facility should be located outside floodplain.	Metrolinx will follow up with the ERMF Project Team to provide a response.
		Bank Swallows are actively nesting at ERMF construction site.	The Project Team is aware of this. Their presence was documented in the Draft Natural Environment Impact Assessment Report and associated mitigation outlined including: <ul style="list-style-type: none">Avoiding vertical faced slopes (either 20 degrees more or 20 degrees less than a 90 degree angle).Stockpiles and exposed slopes should be covered or netted prior to the start of the breeding bird window (April 1st) and maintained until the end of breeding season (August 31st).
		There is a wetland south of the rail corridor and several species have been observed.	The wetland area south of the rail corridor in the vicinity of the ERMF maintenance yard has been identified. There are no anticipated impacts to this wetland area as it is outside the 7m impact zone.
		Kathy Luttrell, CLOCA Ecologist should be looped in on future correspondence.	Kathy Luttrell will be included on future correspondence.
Halton Region Conservation Authority Via August 3, 2016 Meeting	Pre-Planning	Are separate EAs being undertaken for new tracks?	Yes.
		Will Hydro One complete a separate EA for Tap locations?	No. The TPAP regulation was amended to include Hydro One traction power supply components. Hydro One is a co-proponent of the Project and the Tap sites associated with this project are being assessed as part of this EA.
		Will the modifications to bridges create significant impacts?	Loading impacts resulting from the addition of barriers and/or attachments are anticipated to be minor.
		There are multiple bridges that cross over watercourses. In addition, existing tracks are located in proximity to floodplains, which can extend a fair distance. Grading/excavations for OCS installation will not allow significant fill to be added.	Existing floodplains are being considered in the design; it should be noted that the Tap/Traction Power Facilities will be built such that the finished floor (and hence all equipment) will be set at a minimum above the 100-year floodplain. For flood-proofing of sites, the facilities will be built 0.3m above the floodplain. Best practices for site access will be implemented during construction and operations. Additional more detailed SWM analyses will be undertaken as part of detailed design, and relevant Conservation Authorities will be further engaged in this process as appropriate. ⁷ No fill will be placed in the floodplain for OCS installation and any excess materials generated from construction will be placed outside floodplain areas.
		Will the 7 m vegetation removal area extend beyond the Metrolinx ROW?	There are some areas where vegetation/tree removal will be required on non-Metrolinx owned property. The tree compensation protocol to be established will define how these situations will be addressed.
		60% canopy cover is generally used for determining forest communities.	The Project Team took a conservative assessment approach. All woodland communities were considered extensive.
		The project should ensure that you are not cutting back trees that you replant as part of the compensation of initial removals.	Yes, replanting areas are to be located outside the removal zone.
Via August 3, 2016 Meeting			

⁷ Based on further design/engineering work completed, please refer to Volume 1, Section 3.4.4 for further detail.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Via August 3, 2016 Meeting		Is the TRCA compensation strategy something that is being prepared specific to this project or a broader TRCA initiative?	The Vegetation Management Plan being prepared by Metrolinx/TRCA is specific to this project, with the intention of it being adopted by Metrolinx as a standard for all future projects.
Via August 3, 2016 Meeting		Based on the information provided so far there is a strong focus on trees, but what about other types of vegetation? For instance Tallgrass Prairie runs parallel to the rail network.	A conservative approach to vegetation removal quantification was provided. More detailed tree/vegetation surveys will be undertaken during detail design.
Via August 3, 2016 Meeting		Based on an initial review of the study area there are two wetland communities. Will they be impacted/considered as part of mitigation strategy? Wetlands are different than standard vegetation/tree removals.	Wetland communities were identified/considered as part of the preparation of the Draft Natural Environment Impact Assessment Report. The only wetland community that is within the impact zone is a Deciduous Swamp (SWD) community on the south east side of Bronte Creek. Appropriate mitigation will be provided and compensation strategies will also address impacts to ELC communities rather than strictly tree removals.
Via August 3, 2016 Meeting		Are there potential for spills at TPF sites?	The TPF will have self-containment systems included as part of the facility’s design. In addition, measures will be put in place during construction to address any spills that may occur to mitigate any adverse effects.
Via August 3, 2016 Meeting		Would like to review the EPR in advance of formal 30 day review period. 4 weeks (minimum) is required to review and provide comments.	Metrolinx will be circulating a draft of the EPR to review agencies in advance of the 30 day public review. An electronic copy will be provided.
Via August 3, 2016 Meeting		What is the construction timeline?	Approximately 2018-2025.
Via August 3, 2016 Meeting		Has the constructions staging been determined?	No, it will be determined by the Project Contractor.
Via August 3, 2016 Meeting			
UTILITIES			
Enbridge	Pre-Planning	Enbridge Pipelines will be very interested in the environmental assessment and the system design. Enbridge will likely conduct a further study on the impact of the current to the cathodic protection system of the high pressure pipeline we operate that will be crossed by the Rail Network. Enbridge pipelines operates in a shared corridor of the existing Finch HONI corridor across Toronto and the pipelines are protected by a common cathodic protection system.	Comment noted.
		Also, so you are aware, Enbridge Pipelines Inc. and Enbridge Gas Distribution are independent operating companies. Enbridge Gas will have very different concerns than Enbridge Pipelines Inc. and should be contacted directly if they have not already been notified.	Enbridge Pipelines Inc. added to the Stakeholder Contact List.
Newmarket Hydro	Pre-Planning	At the Aurora PIC of February 12, 2016 on this subject, it was noted a Switching Station is planned in Newmarket. The property identified as a potential site for this facility is owned by Newmarket – Tay Power Distribution. The presentation given at the PIC notes that the land is currently used as a “parking lot/storage area”. This is not correct. The property is actually used for a municipal electric substation that serves approximately 20 megawatts of load in the downtown Newmarket area. Metrolinx needs to identify other sites for the Switching Station. This site is neither practical nor available in the foreseeable future.	Comment noted. This feedback was incorporated into the site selection process, and a new preferred site for the Newmarket SWS was subsequently identified.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
IESO	Pre-Planning	Will the existing Go trains travelling the Lakeshore West line be converted over to electric at some point? If so, when is that predicted to be? Also, what is a switching station?	<p>The Lakeshore West Corridor will be electrified from Strachan Avenue in Toronto west to Burlington. Electrification will also include the Union Station Rail Corridor. It is anticipated that Metrolinx will maintain a mixed fleet, including diesel trains to service passengers travelling west of Burlington.</p> <p>Electrification is planned to take place over a 10 year timeframe; the phasing plan is a work in progress and will initially involve testing of rolling stock on a commissioning track</p> <p>A Switching Station (SWS) is a traction power facility equipped with the electrical equipment that allows for switching power between one power source and another. A photo has been provided below as an example for your information. Switching stations are typically located between two traction power substations to split the electrical sections. SWS equipment will include two autotransformers and medium voltage switchgear for connections to the Overhead Contact System.</p> <p>Thank you for your interest in the project. Your contact information has been added to the Project Contact List so that you may receive updates and important notifications as the project progresses. In addition, you may view the display boards from the first round of public meetings here: https://www.metrolinxengage.com/sites/default/files/go_electrification_public_meeting.pdf</p>
Telus	Pre-Planning	We’ve already provided TELUS info on the possible conflicts; attached is the e-mail. Please advise if there were changes from what was previously discussed, as per the e-mail/meeting, and if the Public Meetings would discuss the changes.	This notice was for a public open house related to Electrification. You could attend for general knowledge, but it’s nothing specific to the requirements needed to mitigate utility conflicts. We have received the information for the Utility Conflict Identification at this point and no further action is required.
RAIL COMPANIES			
CN Rail	Pre-Planning	I noticed that this study includes the electrification on CN property in advance of Bramalea Station on CN’s Halton Subdivision. CN has earlier advised Metrolinx that no electrification is permitted on CN property so the EA should reflect this requirement and your plans developed accordingly.	Comment noted. There is no electrification planned on CN property.

1.2.5.7 Consultation Efforts Regarding Municipal Heritage

Consultation efforts regarding cultural heritage were undertaken throughout the pre-planning phase and TPAP phase of the project. Section 1.3.4.7 provides a summary of the consultation undertaken with regards to cultural heritage.

1.2.6 Elected Officials

All elected officials whose electoral riding intersected with the Study Area were sent a notification of the first round of public meetings on February 3, 2016. The letter also invited officials to contact the Project Team if they wished to schedule a meeting with Project staff. A notice of the second round of public meetings was sent via email to all elected officials on the project contact list on October 24, 2016. A copy of the public meeting notice and mailer were attached. Elected officials were asked to help promote the November meetings by distributing the attached notice to their constituents. The email invited officials to contact the Project Team if they wished to schedule a meeting. Below is a summary of comments received and meetings that took place.

A copy of the notifications sent to elected officials is included in **Appendix L-3**, and a list of elected officials contacted is included in **Appendix L-1**.

1.2.6.1 Consultation with Elected Officials

During the Pre-Planning Phase consultation, Metrolinx received correspondence from a number of elected officials regarding electrification. The comments received from elected officials were related to various components of the electrification project including matters of consultation, project scope, infrastructure siting, and noise and vibration mitigation as summarized below.

1.2.6.1.1 Ward 14 Parkdale-High Park Councillor, Gord Perks – November 5, 2016

A meeting with Councilor Gord Perks was held on November 5, 2015 to discuss the electrification project.

1.2.6.1.2 Durham Regional Councillor, Kevin Ashe – January 5, 2016

A meeting was held on January 5, 2016 between Metrolinx and Councillor Ashe to discuss the Lakeshore East (Guildwood to Pickering) TPAP. The Electrification Project was also briefly discussed at this meeting.

1.2.6.1.3 Newmarket Councillor, Joe Sponga

An email received on February 3, 2016 inquired as to why there were no public meetings or other consultation meetings being held in the Town of Newmarket.

1.2.6.1.4 MPP Tracy MacCharles (Pickering-Scarborough East) – February 12, 2016

A meeting was held on February 12, 2016 between Metrolinx and MPP MacCharles to discuss the Lakeshore East (Guildwood to Pickering) TPAP. The Electrification Project was also briefly discussed at this meeting.

1.2.6.1.5 MPP, Chris Ballard (Newmarket-Aurora) – February 16, 2016

A meeting with Member of Provincial Parliament (MPP) Ballard was organized to provide a general overview of the Electrification Project and help address any pressing concerns. Metrolinx staff explained how the project fits into the larger RER plan and provided a high level overview of how the proposed electrification infrastructure operates, including the differences between TPFs (TPS, PS, SWS). MPP Ballard inquired about the potential hazards surrounding stray current. Metrolinx staff assured that stringent grounding and bonding requirements would be met.

1.2.6.1.6 MP, Leona Alleslev (Aurora-Oak Ridges-Richmond Hill)

An email received on February 17, 2016 on behalf of Member of Parliament (MP) Leona Alleslev stated that she regretted not being able to attend the February 17, 2016 PIC Meeting, but wished to schedule a meeting during the week of February 29, 2016 with Metrolinx staff.

1.2.6.1.7 MPP, Helena Jaczek (Oak Ridges-Markham) – February 28, 2016

During this meeting MPP Jaczek was interested in understanding the visual effect of the Lincolnville PS. Metrolinx confirmed the proposed location was on Metrolinx property within the facility area and of a limited size. MPP Jaczek was in agreement with maintaining the proposed facility on the property and expressed no concerns at that time with the approach.

1.2.6.1.8 MPP, Harinder Malhi (Brampton – Springdale) – February 29, 2016

The MPP was unable to attend this meeting in person, however send along their assistant to attend on their behalf. MPP Malhi's Assistant asked about the footprint of the proposed Bramalea PS which was provided by Metrolinx at the time. There were generally no concerns with the information provided.

1.2.6.1.9 MPP, Peter Milczyn (Etobicoke-Lakeshore) – March 2, 2016

MPP Milczyn was provided with a general overview of the CanPA feeder routing as well as electrification. The MPP was not generally concerned with the routing, but mentioned that some individuals might be concerned with regards to EMI in the area. MPP Milczyn inquired about the proposed test track required for electrification and where it would occur. Metrolinx responded that the location would be strategic around Willowbrook layover and would be consistent with the fleet and rail corridor strategy which has yet to be developed. MPP Milczyn asked if this would require the canpa facility to be required first, which Metrolinx confirmed. Metrolinx additionally described that additional property at the north end of the Canpa rail corridor may be required in order to locate a step down facility in order to accommodate the distance to the Hydro One ROW. MPP Milczyn had no immediate concerns with this noting that the majority of property was industrial in that area at present. Metrolinx noted that property under review would likely be adjacent to the Hydro One ROW. MPP Milczyn requested that Metrolinx look into if freight still utilizes the Canpa corridor. Metrolinx noted they would do this.

1.2.6.1.10 MPP, Eleanor McMahon (Burlington) - March 3, 2016

A meeting was held with MPP McMahon on March 3, 2016. MPP McMahon was provided an overview of the electrification project and the TPAP. MPP McMahon was concerned about delays during construction. Metrolinx noted that delays are probable but temporary in nature and necessary for the safety of the workers. MPP McMahon asked about impacts to bridges. Metrolinx noted that there will be impacts to some bridges for protective barriers for public safety, there did not at the time appear to be any bridges requiring modification in MPP McMahon's riding.

1.2.6.1.11 MP Jennifer O'Connell (Pickering-Uxbridge) – March 4, 2016

A meeting was held on March 4, 2016 between Metrolinx and MP O'Connell to discuss the Lakeshore East (Guildwood to Pickering) TPAP. The Electrification Project was also briefly discussed at this meeting.

1.2.6.1.12 MPP, Peter Tabuns (Toronto-Danforth)

An email received on March 31, 2016 on behalf of Peter Tabuns stated that local constituents were interested in having a meeting with Metrolinx staff and Mr. Tabuns would like to organize one during the week of April 12, 2016.

1.2.6.1.13 Town of Oakville Mayor, Rob Burton

An email received on October 24, 2016 from Mayor Rob Burton requested that a link to the November public meeting materials be provided in a format convenient for public to review via their smart phones. Mayor Rob Burton was notified that all material posted on the project website meet accessibility requirements and can be accessed via mobile devices.

1.2.6.1.14 MPP Laura Albanese (York South-Weston)

An email was received on October 28, 2016 on behalf of MPP Laura Albanese requesting a link to an online copy of the November public meeting notice received as part of the notification letter to elected officials. A link to the notice was provided.

1.2.6.1.15 Richmond Hill Councillor, Brenda Hogg

An email received on November 4, 2016 on behalf of Councillor Brenda Hogg inquired about the time the November 23, 2016 public meeting in the Town of Aurora was to take place. Councillor Brenda Hogg was provided with links to all the online materials and information regarding the November 23, 2016 meeting.

1.2.6.1.16 King Township Councillor, Debbie Schaefer

An email was received on November 30, 2016 from Councillor Debbie Schaefer stating she was unable to attend any of the November public meetings but was provided information sheets from constituents who attended. Councillor Schaefer made a request for the noise maps of the Barrie rail corridor showing the locations of expected 5dB or greater increases in noise levels. The maps were provided and follow-up emails by Councillor Schaefer requested additional information on the noise investigated in specific locations and the mitigations proposed. Concern was raised regarding the adequacy of the requirement

for developers to complete noise and vibration assessments for properties within 300m of a rail corridor and to install noise and vibration mitigation where identified in light of increased GO train service. Clarification was provided stating that developers are provided not only current train service levels but also planned future service levels to conduct the noise and vibration assessments.

1.2.6.1.17 Office of the Mayor – City of Pickering

An email received on June 12, 2017 advised that Councillor Shaheen Butt should be added to the project contact list. The project contact list was subsequently updated.

1.2.6.2 Community Meetings

During the Pre-Planning Phase consultation a number of community meetings were hosted by elected officials to discuss various Metrolinx projects within their respective jurisdictions. Metrolinx staff were in attendance at several of the meetings to discuss electrification.

1.2.6.2.1 Meeting – May 2, 2016

On May 2, 2016 a community meeting was hosted by Member of Provincial Parliament (MPP) Peter Tabuns (Toronto-Danforth) where Metrolinx staff discussed the planned GO service increase in the area and the Electrification Project. Approximately 30 members of the public attended the meeting. With regards to electrification, residents were concerned that they did not receive the same information as some of their neighbours regarding the first round of public meetings. As a result, Metrolinx committed to review its communication practices and to expand communications to meet regulatory obligations.

Metrolinx acknowledged that there will be instances where construction will have to take place at night. However, Metrolinx reassured the meeting attendees that proper notice would be provided prior to such works taking place. Furthermore, residents expressed concerns over the visual impact that may result from the Electrification Project. Metrolinx stated that the poles and wires required for electrification will be about 7 m high over the existing rail corridor. Metrolinx will examine the impacts of implementing this infrastructure. The installation of OCS infrastructure will affect the viewshed along the rail corridors, particularly in areas of vegetation/tree clearing. Therefore, visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of 'high' visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.

1.2.6.2.2 Meeting – November 3, 2016

On November 3, 2016 a community meeting was hosted by Member of Provincial Parliament (MPP) Peter Tabuns to provide an update on the planned GO services increase in the Old Riverdale area and electrification of the GO service. Approximately 40 members of the public attended the meeting. With regards to electrification, residents were concerned about noise and vibration impacts and the loss of trees from the required 7m vegetation clearance zone. The noise and vibration assessment as part of the

Electrification project identified the need for noise and vibration mitigation in Old Riverdale, Metrolinx noted that the type of noise and vibration mitigation may include a noise wall and anti-vibration ballast mats, however the specific type of mitigation will be identified during detail design. With regards to tree loss, Metrolinx acknowledged the importance of trees as part of communities and provided information on the comprehensive tree removal compensation protocol under development. The direct link to the Metrolinx Engage website was provided and residents were encouraged to share their thoughts to help shape the tree removal protocol.

Residents were also concerned about overnight construction. Metrolinx noted that overnight construction will be avoided as much as possible, however the installation of the electrification overhead contact system may need to be completed at night when trains are not operating. Metrolinx committed to giving residents advance notice of the work, will share the construction schedule.

1.2.6.2.3 Meeting – December 14, 2016

On December 14, 2016 a community meeting was hosted by Member of Provincial Parliament (MPP) Soo Wong. The meeting was held along the Stouffville Corridor at the Agincourt Recreation Centre. The meeting provided an update to residents on the Stouffville Rail Corridor Expansion project and the Electrification project. Approximately 25 residents were in attendance. Also in attendance was a representative from Councillor Chin Lee's office. Information on the electrification infrastructure requirements, the EA process, and noise and tree impacts was presented.

With regards to electrification, key topics of interest and/or concern to the residents included noise and vibration impacts, noise and vibration mitigation measures and construction timing. Metrolinx noted that the Electrification TPAP noise and vibration assessment models for the proposed increase in electrified services and this ensures appropriate noise mitigation for the long-term. With regards to construction timing, Metrolinx noted that the plan for completing construction of electrification infrastructure along the Stouffville line is 2025.

1.2.6.2.4 Meeting – February 6 & 9, 2017

Community meetings were hosted on February 6 and 9, 2017 by Member of Provincial Parliament (MPP) Laura Albanese. The February 6, 2017 meeting hosted along the Barrie Corridor provided an update on the Barrie Rail Corridor Expansion TPAP and electrification of the GO network. The February 9, 2017 meeting hosted along the Kitchener Corridor provided an update on the Electrification project only.

The February 6, 2017 community meeting was held at Charles E. Webster Public School in the Eglinton West neighbourhood. Approximately 40 residents were in attendance. Also in attendance was Councillor Frank Di Giorgio. A presentation on the Electrification and Barrie Rail Corridor Expansion projects was provided followed by a question and answer period. During the presentation an overview of the Electrification project was provided including a discussion on the project components/infrastructure requirements, bridge modifications required, vegetation clearing requirements, and project schedule.

With regards to electrification, the key themes of resident interest and/or concern included noise impacts and noise walls, tree removals, property value, and electrification infrastructure.

The February 9, 2017 community meeting was held at York West Living Active Centre. Approximately 25 residents were in attendance. Also in attendance was Councillor Frances Nunziata. A presentation on the Electrification project was provided followed by a question and answer period. An overview of the Electrification project was provided including information on the project components/infrastructure, bridge modification requirements, vegetation clearing requirements, and the project schedule. The key themes of resident interest and/or areas of concern included noise impacts and noise walls, property values, electrification infrastructure and timing of electrification.

1.2.7 Draft Environmental Project Report Circulation

As part of seeking comments and feedback on the Draft Environmental Project Report prior to issuing the Notice of Commencement, a copy of the complete Draft EPR, including copies of all 21 draft EPR supporting documents (included as EPR Appendices) was circulated to over 80 federal, provincial, municipal and Indigenous review agencies in January 2017. The complete list of review agencies and Indigenous communities who received a copy of the Draft EPR has been provided in **Table 1-13**. A cover letter was included in each draft EPR package, which included background information on the project, a description of the EPR content and Appendices, contact information, and described how comments could be submitted to the project team. The cover letters also outlined specific sections of the EPR that each review agency/Indigenous community may be most interested in (where applicable) in order to assist in navigating the reports and to help focus their review. A sample copy of the cover letter can be found in **Appendix L-3**, along with a copy of the email which was sent to each contact.

1.2.7.1 Review Agency & Indigenous Communities Follow-Up

Subsequent to sending the EPR packages/letters, beginning the week of January 30, 2017 Metrolinx followed-up directly with each review agency and Indigenous community through phone call/voicemail and/or email to confirm that the draft EPR package had been received and to inquire as to whether comments on the draft EPR could be expected. Copies of the correspondence can be found in **Appendix L-8 to L-11**.

Table 1-13: List of Review Agencies & Aboriginal Communities Who Received the Draft EPR for Review

Federal	
Canadian Environmental Assessment Agency	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Canadian Transportation Agency	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Department of Fisheries and Oceans Canada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Environment and Climate Change Canada	Package/Letter Dated: January 16, 2017

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



	Email: January 20, 2017
Environment and Climate Change Canada – Committee on the Status of Endangered Wildlife in Canada (COSEWIC)	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Health Canada	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
Indigenous and Northern Affairs Canada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
National Trust for Canada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Parks Canada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Transport Canada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Provincial	
Infrastructure Ontario	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Advanced Education and Skills Development	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Agriculture Food and Rural Affairs	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Community and Social Services	Package/Letter Dated: January 16, 2017 Email: January 20, 2017 & February 1, 2017
Ministry of Community Safety and Correctional Services	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Economic Development and Growth	Package/Letter Dated: January 16, 2017 & January 23, 2017 Email: January 24, 2017
Ministry of Education	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Energy	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Health and Long Term Care	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Indigenous Relations and Reconciliation	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
Ministry of Municipal Affairs	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Natural Resources and Forestry – Committee on the Status of Species at Risk in Ontario	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Natural Resources and Forestry – Midhurst District	Package/Letter Dated: January 16, 2017 Email: January 20, 2017

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



Ministry of Natural Resources and Forestry – Natural Heritage Information Centre	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of Natural Resources and Forestry– Aurora District	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ministry of the Environment and Climate Change – Barrie District	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Ministry of the Environment and Climate Change – Environmental Approvals Branch	Package/Letter Dated: January 16, 2017 Email: January 18, 2017
Ministry of the Environment and Climate Change – Halton-Peel District	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Ministry of the Environment and Climate Change – Toronto District	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Ministry of the Environment and Climate Change – York-Durham District	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Ministry of Tourism Culture and Sport	Package/Letter Dated: January 16, 2017 Email: January 18, 2017
Ministry of Transportation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Municipal	
City of Barrie	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Brampton	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Burlington	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Markham	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Mississauga	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Oshawa	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Pickering	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
City of Toronto	Package/Letter Dated: January 16, 2016 Email: January 18, 2017
City of Vaughan	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
County of Simcoe	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Region of Durham	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Region of Halton	Package/Letter Dated: January 16, 2016 Email: January 19, 2017

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



Region of Peel	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Region of York	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Ajax	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Aurora	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Bradford West Gwillimbury	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of East Gwillimbury	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Innisfil	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Newmarket	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Oakville	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Whitby	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Town of Whitchurch-Stouffville	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Township of King	Package/Letter Dated: January 16, 2016 Email: January 19, 2017
Conservation Authorities	
Central Lake Ontario Conservation Authority	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Conservation Ontario	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Credit Valley Conservation Authority	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Halton Region Conservation Authority	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Lake Simcoe Region Conservation Authority	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Toronto and Region Conservation Authority	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Other Stakeholders	
Canadian Pacific Railway	Package/Letter Dated: January 24, 2017 Email: January 24, 2017
Canadian National Railway Company	Package/Letter Dated: April 19, 2017
Greater Toronto Airports Authority	Package/Letter Dated: January 16, 2017

GO Rail Network Electrification TPAP

FINAL Environmental Project Report – Volume 4



	Email: January 20, 2017
Niagara Escarpment Commission	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
NavCanada	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ontario Heritage Trust	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Ontario Power Generation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Via Rail	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
TTC	Package/Letter Dated: January 16, 2017 & January 27, 2017 Email: January 30, 2017
Fort York Historic Site	Package/Letter Dated: January 16, 2017 Email: January 19, 2017
Indigenous Communities	
Alderville First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Beausoleil First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Chippewas of Georgina Island	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
Chippewas of Rama First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Curve Lake First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Haudenosaunee Confederacy Chiefs Council	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Hiawatha First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Huron-Wendat Nation	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
Kawartha Nishnawbe First Nation	Package/Letter Dated: January 16, 2017 (Returned to sender January 25, 2017 by courier) Package/Letter: Resent on January 26, 2017 as registered mail with Canada Post (package went unclaimed and was returned to sender February 15, 2017). Email: February 2, 2017 Package/Letter: Resent on February 17, 2017 as regular mail with Canada Post.

	Email: Draft EPR sent electronically through a FTP link on March 6, 2017. ⁸
Mississaugas of the New Credit First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Mississaugas of Scugog Island First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Moose Deer Point First Nation	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Six Nations of the Grand River	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Wahta Mohawks	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Anishinabek Nation Union of Ontario Indians	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Association of Iroquois and Allied Indians	Package/Letter Dated: January 16, 2017 Email: January 23, 2017
Métis Nation of Ontario	Package/Letter Dated: January 16, 2017 Email: January 20, 2017
Williams Treaties First Nations (WTFN)	Package/Letter Dated: January 16, 2017 Email: January 23, 2017

The various review agencies/Indigenous communities were asked to provide comments within a six week period between mid January 2017 and February 28, 2017. While most comments were received by the end of February, it is noted that several were received after the due date, however these comments were still considered and responded to by Metrolinx/Hydro One. There were approximately 40+ review agencies who provided comments on the Draft EPR. Each comment/question was responded to via detailed comment/response tables that were prepared and submitted back to each review agency/Indigenous community. **Table 1-15** to **Table 1-62** below contain each comment (verbatim) submitted by each specific review agency as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate).

The following review agencies and Indigenous communities confirmed receipt of the draft EPR and advised that they had no comments at the time:

- Indigenous and Northern Affairs Canada;
- Department of Fisheries and Oceans Canada;

⁸ Indigenous and Northern Affairs Canada (INAC) was consulted with to confirm the contact information and mailing address on file for Kawartha Nishnawbe First Nation. INAC stated that they have no contact information on file for Kawartha Nishnawbe First Nation as the community is not a recognized band under the Indian Act or under alternative self-government legislation. The Assembly of First Nations was also consulted with to confirm the contact information and mailing address for Kawartha Nishnawbe First Nation. The Assembly of First Nations confirmed that the contact information Metrolinx has on file is consistent with the information they have on file.

- Environment and Climate Change Canada;
- Environment and Climate Change Canada – Committee on the Status of Endangered Wildlife in Canada (COSEWIC);
- Ontario Heritage Trust;
- Ministry of Municipal Affairs and Housing;
- Ministry of Energy;
- Ministry of Health and Long Term Care;
- Ministry of Education;
- Ministry of Agriculture Food and Rural Affairs;
- Ministry of Advanced Education and Skills Development;
- Ministry of Community and Social Services;
- Infrastructure Ontario;
- Town of Ajax;
- Niagara Escarpment Commission;
- Conservation Ontario;
- Hiawatha First Nation;
- Six Nations of the Grand River;
- Métis Nation of Ontario; and,
- Wahta Mohawks.

Subsequent to providing the responses to the draft EPR comments, Metrolinx followed-up with each review agency and Indigenous community through email/phone call to discuss any ongoing concerns as they relate to Metrolinx's responses to the comments on the draft EPR. **Table 1-14** below summarizes the follow-up efforts to discuss any ongoing concerns. Copies of the correspondence can be found in **Appendix L-8 to L-11**.

Table 1-14: Review Agency and Indigenous Draft EPR Comment Response Follow-up

Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
Federal				
Canadian Environmental Assessment Agency	June 15, 2017	July 11, 2017	N/A	N/A
Health Canada	June 13, 2017	July 11, 2017	N/A	N/A
Parks Canada	July 12, 2017		Meeting August 15, 2017	Confirmed receipt August 25, 2017 via email

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
				Follow-up comments received September 22, 2017 via email (Refer to Table 1-66 for comments received)
Transport Canada	July 18, 2017		First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	
Provincial				
Ministry of Economic Development and Growth	June 8, 2017	July 11, 2017	N/A	N/A
Ministry of Natural Resources and Forestry–Aurora District	June 8, 2017	July 11, 2017	First call: August 16, 2017 (voicemail)	
Ministry of the Environment and Climate Change	July 28, 2017	August 11, 2017	First call: August 16 th (voicemail) Second call: August 17, 2017 Meeting August 16, 2017	Confirmed receipt August 17, 2017 via email Follow-up comments received August 31, 2017 via email (Refer to Table 1-66 for comments received)
Ministry of Tourism Culture and Sport	June 8, 2017	July 11, 2017	Meeting August 10, 2017	Confirmed receipt at meeting Follow-up comments received August 31, 2017 via email (Refer to Table 1-66 for comments received)
Ministry of Transportation	June 8, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Confirmed receipt June 27, 2017 via email
Municipal				

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
Township of King	June 8, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Follow-up comments received August 30, 2017 via email (Refer to Table 1-66 for comments received)
Region of Peel	June 9, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	
City of Pickering	June 9, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Confirmed receipt and no further comments August 18, 2017 via email
County of Simcoe	June 9, 2017	July 11, 2017	First call: August 16, 2017 (voicemail)	Confirmed receipt and no further comments August 16, 2017 via email
Town of Whitby	June 9, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	
City of Brampton	June 9, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Confirmed receipt and no further comments August 30, 2017 via email
Town of Aurora	June 13, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017	Confirmed receipt August 17, 2017 via email

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
			(voicemail)	
City of Oshawa	June 13, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017	
Town of Bradford West Gwillimbury	June 13, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017	Confirmed receipt and no further comments September 11, 2017 via email
Town of Innisfil	June 15, 2017	July 11, 2017	Meeting August 2, 2017	Confirmed receipt at meeting
Region of Durham	June 15, 2017	July 11, 2017	First call: August 15, 2017	Confirmed receipt and no further comments August 16, 2017 via email
Region of Halton	June 15, 2017	July 11, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017	
City of Burlington	June 16, 2017	July 11, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017	Confirmed receipt and no further comments August 17, 2017 via email
City of Mississauga	June 23, 2017	July 11, 2017	First Call: August 15, 2017 (voicemail)	Confirmed receipt and no further comments August 16, 2017 via email
Town of Oakville	June 23, 2017	July 11, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Confirmed receipt and no further comments September 6, 2017 via phone call
City of Markham	June 27, 2017	July 11, 2017	Meeting	Confirmed receipt at meeting

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
			August 1, 2017	
City of Barrie	June 30, 2017	July 11, 2017	Meeting August 2, 2017	Confirmed receipt at meeting
York Region (Town of East Gwillimbury, City of Vaughan, Town of Newmarket, Town of Whitchurch-Stouffville)	July 18, 2017	August 11, 2017	First call: August 15, 2017 (voicemail)	Confirmed receipt August 17, 2017 via email Follow-up comments received September 8, 2017 via email (Refer to Table 1-66 for comments received)
City of Toronto	August 3, 2017	August 11, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Follow-up comments received September 6, 2017 via email (Refer to Table 1-66 for comments received)
Town of Bradford West Gwillimbury	June 13, 2017	July 11, 2017		Confirmed receipt August 16, 2017 via email Confirmed no further comments September 11, 2017 via email
Conservation Authorities				
Credit Valley Conservation Authority	June 14, 2017	July 11, 2017	First call: August 16, 2017	Confirmed receipt and no further comments August 18, 2017 via email
Central Lake Ontario Conservation Authority	June 23, 2017	July 11, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017	Confirmed receipt and no further comments August 16, 2017 via email
Halton Region Conservation Authority	June 23, 2017	July 11, 2017	First call: August 15, 2017 Second call: August 17, 2017 (voicemail)	
Toronto and Region Conservation Authority	June 30, 2017	August 10, 2017	First call: August 16, 2017 (voicemail) Second call:	Confirmed receipt August 21, 2017 via email Follow-up comments received August 25, 2017 via email

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
			August 17, 2017 (voicemail)	(Refer to Table 1-66 for comments received)
Lake Simcoe Region Conservation Authority	July 7, 2017	July 21, 2017	First call: August 15, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	Follow-up comments received August 28, 2017 via email (Refer to Table 1-66 for comments received)
Other Stakeholders				
Ontario Power Generation	June 9, 2017	July 11, 2017	N/A	N/A
Canadian Pacific Railway	June 14, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017 (voicemail)	
Greater Toronto Airports Authority	June 14, 2017	July 11, 2017	First call: August 16, 2017 (voicemail) Second call: August 17, 2017	Follow-up comments received June 27, 2017 via email (Refer to Table 1-66 for comments received)
NavCanada	June 16, 2017	July 11, 2017	First call: August 15, 2017 Second call: August 17, 2017 (voicemail)	Follow-up comments received August 16, 2017 via email (Refer to Table 1-66 for comments received)
TTC	July 7, 2017	July 21, 2017	First call: August 15, 2017 (voicemail)	Follow-up comments received July 13, 2017 via email (Refer to Table 1-66 for comments received)
Fort York	July 7, 2017	July 21, 2017	First call: August 15, 2017	
Canadian National Railway Company	July 25, 2017		Meeting September 6, 2017	Draft EPR comments received letter dated July 6, 2017 (Refer to Table 1-66 for comments received)
Indigenous Communities				

Review Agency	Draft EPR Response Sent	Follow-up Email	Follow-up Call / Meeting	Confirmed Receipt / Follow-up Comments Received
Mississaugas of Scugog Island First Nation	June 16, 2017	July 11, 2017	Meeting August 23, 2017	Confirmed receipt at meeting
Huron-Wendat Nation	June 16, 2017	July 11, 2017	Called no answer (no voicemail)	
Mississaugas of the New Credit First Nation	June 23, 2017	July 11, 2017	First call: August 15, 2017 Second call: August 17, 2017 (voicemail)	

1.2.7.2 Federal Review Agency Comments Received on Draft EPR

Table 1-15 to **Table 1-18** below contain each comment (verbatim) submitted by each federal review agency as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate).

Table 1-15: Canadian Environmental Assessment Agency Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx										
CANADIAN ENVIRONMENTAL ASSESSMENT AGENCY													
1	Project Scope	The correspondence received by the Agency on October 25, 2016 indicates that there will be three projects: the <i>GO Rail Network Electrification TPAP</i> , the <i>Barrie Rail Corridor Expansion TPAP</i> and the <i>Lakeshore East Don River to Scarborough Expansion TPAP</i> . However the January, 2017 correspondence seems to indicate that there is one project planned, capturing six GO lines/corridors. Please clarify the number of projects Metrolinx is planning under the TPAP, their names and parameters (i.e., extensions).	<p>For clarification, the communication provided to Canadian Environmental Assessment Agency (CEAA) on October 25, 2016 was a Notice of Community Open Houses to advertise of various Metrolinx Environmental Assessment (EA) consultation events held in November 2016. Specifically there were 13 public open houses held by Metrolinx to consult on the GO Rail Network Electrification Project. Of these 13 public consultation events, some of the meetings also included consultation on two other (separate) Metrolinx projects: <i>i) the Barrie Rail Corridor Expansion Transit Project Assessment Process (TPAP)</i>, and <i>ii) the Lakeshore East – Don River Scarborough Expansion TPAP</i>.</p> <p>The study area limits of the <i>Barrie Rail Corridor Expansion TPAP</i> are: <i>Lansdowne Avenue to Allandale Waterfront GO Station along the Barrie GO Rail Corridor</i>.</p> <p>The study area limits of the <i>Lakeshore East – Don River Scarborough Expansion TPAP</i> are: <i>Don River to Scarborough GO Station along the Lakeshore East GO Rail Corridor</i>.</p> <p>The purpose of the subsequent January 2017 correspondence to CEAA was specifically to provide a copy of the GO Rail Network Electrification Draft Environmental Project Report (EPR) for comment and feedback. The scope of the Electrification project entails installation of electrification infrastructure (i.e., overhead contact system along Metrolinx rail corridors, traction power supply and distribution facilities, electrical feeder routes, etc.). Please refer to Volume 1 of the Draft EPR for further detail.</p> <p>The Electrification project study area includes:</p> <ol style="list-style-type: none">1. Union Station Rail Corridor – From UP Express Union Station to Don Yard Layover2. Lakeshore West Corridor – From just west of Bathurst St (Mile 1.20) to Burlington3. Kitchener Corridor – From UP Express Spur1 (at Highway 427) to Bramalea4. Barrie Corridor – From Parkdale Junction (off Kitchener Corridor) to Allandale GO Station5. Stouffville Corridor – From Scarborough Junction (off Lakeshore East Corridor) to Lincolnville GO Station6. Lakeshore East Corridor – From Don Yard Layover to Oshawa GO Station										
2	CEAA 2012 Applicability	<p>To Assist the Agency in better understanding the applicability of the Canadian Environmental Assessment Act, 2012 (CEAA 2012) and the Regulations Designating Physical Activities (the Regulations), please explain whether aspects of the proposed project(s) include the construction, operation, decommissioning and abandonment of a new:</p> <ul style="list-style-type: none">• Railway line in a wildlife area or migratory bird sanctuary;• Railway line that requires a total of 32 km or more of new right of way;• Railway yard with seven or more yard tracks or a total track length of 20km or more; or• Railway line designed for trains that have an average speed of 200km/h or more.	<p>In response to your question about project works, please refer to the following table:</p> <table><tr><th>Designated Physical Activity Per CEAA 2012</th><th>Included in Scope of GO Rail Network Electrification Project? (Yes/No)</th></tr><tr><td>Construction, operation, decommissioning or abandonment of a new railway line in a wildlife area or migratory bird sanctuary</td><td>No</td></tr><tr><td>Construction, operation, decommissioning or abandonment of a new railway line that requires a total of 32km or more of new right of way</td><td>No</td></tr><tr><td>Construction, operation, decommissioning or abandonment of a new railway yard with seven or more yard tracks or ta total track length of 20 km or more</td><td>No</td></tr><tr><td>Construction, operation, decommissioning or abandonment of a new railway line designated for trains that have an average speed of 200km/h or more</td><td>No</td></tr></table>	Designated Physical Activity Per CEAA 2012	Included in Scope of GO Rail Network Electrification Project? (Yes/No)	Construction, operation, decommissioning or abandonment of a new railway line in a wildlife area or migratory bird sanctuary	No	Construction, operation, decommissioning or abandonment of a new railway line that requires a total of 32km or more of new right of way	No	Construction, operation, decommissioning or abandonment of a new railway yard with seven or more yard tracks or ta total track length of 20 km or more	No	Construction, operation, decommissioning or abandonment of a new railway line designated for trains that have an average speed of 200km/h or more	No
Designated Physical Activity Per CEAA 2012	Included in Scope of GO Rail Network Electrification Project? (Yes/No)												
Construction, operation, decommissioning or abandonment of a new railway line in a wildlife area or migratory bird sanctuary	No												
Construction, operation, decommissioning or abandonment of a new railway line that requires a total of 32km or more of new right of way	No												
Construction, operation, decommissioning or abandonment of a new railway yard with seven or more yard tracks or ta total track length of 20 km or more	No												
Construction, operation, decommissioning or abandonment of a new railway line designated for trains that have an average speed of 200km/h or more	No												
3	Proximity to Federal Lands	To further assist the Agency in better understanding the proposed project(s), the environmental setting and the potential applicability of section 67 of CEAA 2012, please also indicate whether any of the works would be located on or adjacent to any federal lands.	<p>With respect to project works located on or adjacent to federal lands, there are some areas along the existing GO rail ROW’s where the Electrification impact zone interacts with federal lands. The impact zone is defined as a maximum 7 metre Vegetation Clearing Zone measured from the centerline of the outermost tracks to be electrified and proposed feeder routes. This zone also captures the area within which the Overhead Contact System and bridge modifications will occur.</p> <p>These locations are as follows:</p>										

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p><u>Canadian National Railway (CNR)</u></p> <p>On the Lakeshore East Corridor, Metrolinx acknowledges CN’s plans for a future 3rd track on the CN Kingston Sub. OCS poles or portals would not be placed between the GO and CN corridors in order to preserve this space for future CN track expansion.</p> <p>The electrified GO Stouffville corridor will cross CN at the CN York Sub (GO Uxbridge Sub. Mi. 51.10), this structure will require flash plates to facilitate electrification.</p> <p>A set of gantries is required for the Bramalea Paralleling Station (located in Brampton, ON) along the Kitchener rail corridor on the CN Halton Sub.</p> <p><u>Lakeshore East Corridor – Proposed Pickering Airport (see Attachment A)</u></p> <p>There is a portion of the existing Lakeshore East Rail Corridor that traverses through lands designated for the proposed Pickering Airport (which are owned by Greater Toronto Airports Authority) (GTAA)). It is anticipated that the OCS infrastructure will be located within Metrolinx’s existing rail ROW, however vegetation clearing may be required outside of Metrolinx’s ROW for safety reasons as outlined in Section 3.6.4 of EPR Volume 1. It should be noted that GTAA was provided a copy of the Draft EPR for comment and responses were provided to GTAA’s comments by Metrolinx. Consultation with GTAA will continue throughout the TPAP as appropriate.</p> <p><u>Barrie Corridor – Downsview Park (see Attachment B)</u></p> <p>There is a portion of the existing Barrie Rail Corridor that traverses through Downsview Park (federally owned and managed - by Canada Lands Company). It is anticipated that the OCS infrastructure and vegetation clearing will be located within Metrolinx’s existing rail ROW, therefore no effects to the Park are anticipated. Notwithstanding, as part of detailed design, this will be re-confirmed and consultation with CLC will be undertaken as appropriate.</p> <p><u>Lakeshore East Corridor and Stouffville Corridor</u></p> <p>There are portions of the existing Lakeshore East and Stouffville Rail Corridors that traverse through the Rouge National Urban Park (RNUP) (overseen by Parks Canada). It is anticipated that the OCS infrastructure will be located within Metrolinx’s existing rail ROW, however vegetation clearing may be required outside of Metrolinx’s ROW for safety reasons as outlined in Section 3.6.4 of EPR Volume 1. It should be noted that Parks Canada was provided a copy of the Draft EPR for comment and responses were provided to Park Canada’s comments by Metrolinx. Consultation with Parks Canada will continue throughout the TPAP as appropriate.</p> <p>In addition, an estimate of the extent of the vegetation removal zone that extends beyond Metrolinx’s rail ROW and on RNUP lands along the Lakeshore East and Stouffville rail corridors is provided as follows (this information was also provided directly to Parks Canada as part of responding to their comments on the Draft EPR):</p> <p><i>Lakeshore East Corridor – see Attachment C</i></p> <ul style="list-style-type: none">• Extent of 7m vegetation removal zone along LSE corridor within RNUP boundaries that falls outside the MX ROW = approximately 51.9 m². These lands are not federally owned, rather they are owned by the Toronto Region Conservation Authority (TRCA)⁹. <p><i>Stouffville Corridor – see Attachment D</i></p> <ul style="list-style-type: none">• Extent of 7m vegetation removal zone along STV corridor within RNUP boundaries and that fall outside the MX ROW = approximately 311.6m², ownership¹⁰ of these lands are as follows:

⁹ Property ownership based on available data from Teranet.

¹⁰ Property ownership based on available data from Teranet.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																						
				<table><tr><th>PIN</th><th>Land Owner¹¹</th><th>Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries</th></tr><tr><td>037310487</td><td>Federally owned</td><td>7.56 m2</td></tr><tr><td>030620437</td><td>Federally owned</td><td>0.004 m2</td></tr><tr><td>030630029</td><td>Federally owned</td><td>68.73 m2</td></tr><tr><td>030630028</td><td>York Region</td><td>139.86 m2</td></tr><tr><td>030630001</td><td>City of Markham</td><td>95.44 m2</td></tr><tr><td colspan="2">TOTAL</td><td>311.63 m2</td></tr></table>	PIN	Land Owner ¹¹	Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries	037310487	Federally owned	7.56 m2	030620437	Federally owned	0.004 m2	030630029	Federally owned	68.73 m2	030630028	York Region	139.86 m2	030630001	City of Markham	95.44 m2	TOTAL		311.63 m2
			PIN	Land Owner ¹¹	Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries																				
			037310487	Federally owned	7.56 m2																				
			030620437	Federally owned	0.004 m2																				
			030630029	Federally owned	68.73 m2																				
			030630028	York Region	139.86 m2																				
			030630001	City of Markham	95.44 m2																				
			TOTAL		311.63 m2																				
Metrolinx will be undertaking further discussions and consultation with Parks Canada as part of the Electrification TPAP regarding the specific permit/approval requirements that may pertain to vegetation removals on RNUP lands. Any Parks Canada permit/approval requirements will be reflected in the revised EPR and subsequently obtained prior to commencement of construction.																									
Union Station																									
Parks Canada is Union Station’s Approval Authority under the terms and conditions of the heritage Easement Agreement (signed in 2000) when the Station was sold to the City of Toronto and GO Transit (who is now responsible for TTR lands in USRC), under section 37 of the <i>Ontario Heritage Act</i> (Section 37 of the OHA addresses Easements for heritage properties). The Union Station trainshed is included under this Agreement. Metrolinx is consulting with Parks Canada as part of the TPAP to ensure that federal approval requirements are identified for any electrification modifications to Union Station. Metrolinx acknowledges that, as Union Station’s Approval Authority, Parks Canada must approve any proposed electrification modifications for the Union Station trainshed. It is understood Metrolinx or its Contractor will seek any required approvals from Parks Canada prior to project implementation.																									

¹¹ Property ownership based on available data from Teranet.

Table 1-16 Health Canada Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
HEALTH CANADA			
1	Noise, Air Quality, Water	<p>Thank you for your interest in Health Canada's expertise as it relates to environmental assessments (EAs). Health Canada's role in EA is founded in statutory obligations under the Canadian Environmental Assessment Act, 2012, which provides the legal basis for the federal EA process. Health Canada is a federal department with knowledge and expertise that can be called upon by responsible authorities, review panels, Indigenous groups and/or other jurisdictions leading EAs to determine whether there are potential health risks associated with proposed projects and how to prevent, reduce or mitigate them. Upon receipt of a request from one of the above noted groups, Health Canada may participate in this EA process.</p> <p>Although we are unable to help you with your current request, please find the attached Health Canada resources which may be helpful in reviewing human health impacts for your project. These documents have not been published, but the content is not expected to change prior to publication.</p> <p>(See attached file: Guidance for Evaluating Human Health Impacts in Environmental Assessments NOISE July 2016.pdf)(See attached file: Guidance for Evaluating Human Health Impacts in Environmental Assessments AIR.pdf)(See attached file: Guidance for Evaluating Human Health Impacts in Environmental Assessments WATER.pdf)</p> <p>Additionally, the following document outlines information that would be beneficial to include in environmental assessment documents when requesting Health Canada's advice as a federal authority: http://publications.gc.ca/collections/collection_2015/sc-hc/H128-1-10-599-eng.pdf</p>	<p>Thank you for the information provided.</p> <p>Please note that with respect to examining potential noise and vibration effects associated with the electrification undertaking, a detailed Noise & Vibration study was undertaken as part of the Transit Project Assessment Process (TPAP) and documented in the reports contained in Appendix G to the draft Environmental Project Report (EPR) (which was provided to Health Canada as part of the draft EPR package circulated in January 2017).</p> <p>Please note that with respect to examining potential air quality effects associated with the electrification undertaking, an Air Quality study was undertaken as part of the TPAP and documented in the reports contained in Appendix F (which was provided to Health Canada as part of the draft EPR package circulated in January 2017).</p> <p>Please note that with respect to examining potential effects associated with wells and groundwater, the draft EPR is currently being updated to include an overview of wells/water supplies within the study area, and a preliminary assessment of potential effects on wells/water supplies and groundwater associated with the undertaking. Mitigation measures will be proposed as appropriate and the EPR will be updated accordingly to reflect this information.</p>

Table 1-17: Parks Canada Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
PARKS CANADA - UNION STATION			
1	Cultural Heritage	<p>Two major areas of concern were identified while reviewing the Draft Environmental Project Report:</p> <ol style="list-style-type: none">1. It is essential that the electrification of the network is fully integrated with Metrolinx’s proposed conservation work elsewhere in Union Station’s trainshed. It is also necessary to ensure there is continued collaboration with the City of Toronto where proposed conservation work by either custodian may impact the other. Given the complexity of the various projects, skillful coordination of all the interventions is absolutely critical.2. ERA’s Heritage Impact Assessment (January 2017) provides a very minimal description of the range of interventions that electrification may require. The Heritage Impact Assessment only addresses the need to install an overhead contact system. Electrifying the network may require other modifications to Union Station’s trainshed such as alterations to tracks and platforms. These are not described and are considered to be a serious omission that must be addressed if there is to be a holistic assessment of electrifying the network. The cumulative impact of the sum total of alterations to the trainshed must be clearly identified in order to provide meaningful recommendations for their mitigation.	<p>The EPR and corresponding technical reports have been prepared to document and assess impacts associated with the implementation of Electrification infrastructure. These reports are not intended to capture other Metrolinx undertakings which are being reviewed under separate process. However, internal coordination with Metrolinx project teams are ongoing and consultation with Parks Canada, City of Toronto and other stakeholders will continue as required.</p> <p>The HIA provided represents the current understanding of proposed modifications and interventions required to Union Station for Electrification based on the conceptual design. As noted in Section 3.8 of EPR Volume 3, commitments have been made for continued consultation with Parks Canada as the Project’s design progresses. The HIA provided in Appendix M for the Draft EPR is not intended to assess or speak to any track/platform modifications or glass atrium alterations associated with the Union Station Enhancement Project, which is a separate Metrolinx undertaking. It is acknowledged that continued consultation with Parks Canada will be required as the project progresses, including formal submissions considering cumulative impacts as more detailed design information becomes available. Future design work must follow a three stage approval process that begins with reviewing conceptual designs before moving into the final design stage. Please see response to Comment #2.</p>
2	Cultural Heritage	<p>VOLUME 2: BASELINE CONDITIONS Page 46: 2.3.1.1.1 Federal Approvals</p> <p>This section should be clarified to ensure that there is consistency between what is outlined in the Easement Agreement and its supporting Collateral Agreement. Please refer to the comment provided on Appendix F in the section on Appendix C found below.</p>	<p>This section will be updated as required to clarify what is outlined in the Easement and Collateral Agreements; and to clarify the relationship between the Collateral Agreement and the Easement Agreement as follows:</p> <p>As per the Collateral Agreement:</p> <ul style="list-style-type: none">• The Easement Agreement was signed with Parks Canada when Toronto and GO purchased Union Station in 2000 from Toronto Terminal Railway (TTR).• The Easement Agreement is meant to protect the Heritage Elements of the Station Complex• In 2006 Parks, CoT and GO Transit signed the Collateral Agreement for an approvals process between the parties in order to make alterations/construction/demolition affecting Heritage Elements at the Station Complex
3	Cultural Heritage	<p>VOLUME 4: CONSULTATION Page 52: 1.2.5.1.2 Parks Canada</p> <p>In 2015 and 2016 a series of meetings where held where Parks Canada and the City of Toronto were provided updates on Metrolinx’s progress on various components of conservation work proposed for the trainshed. It was understood that these meetings were to provide high level updates. Therefore, it was surprising to see that these meetings were recorded as stakeholder consultation in this particular Volume. It was not clearly articulated to Parks Canada that these meetings were formal consultation. Discussions at these meetings have not yet led to formal staged submissions to Parks Canada for our review. It is hoped that our attendance at these previous meetings is not interpreted as support or approval for the material that was presented.</p>	<p>Metrolinx has strived to engage Parks Canada as early in the design and EA/TPAP process as possible for the GO Rail Network Electrification Project, especially concerning any modifications proposed at Union Station Train Shed. Presentation materials and meeting minutes were prepared and circulated to all attendees for review/comment. Documentation of all consultation efforts undertaken in the Draft EPR, including meetings is standard practice. It is acknowledged that continued consultation with Parks Canada will be required as the project progresses, including formal submissions as more detailed design information becomes available.</p>
4	Cultural Heritage	<p>VOLUME 5: COMMITMENTS AND FUTURE WORK Page 30: 1.5.4 Union Station Train Shed</p> <p>There is a reference to a heritage impact assessment report dated November 2016 that is in Appendix M. ERA’s report in Appendix M is dated January 16, 2017. Was the correct report included in Appendix M?</p>	<p>November 2016 refers to a previous version of the report. The reference will be updated to reflect the version provided in Appendix M.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
5	Cultural Heritage	<p>APPENDIX C: CULTURAL HERITAGE ASSESSMENT REPORT</p> <p>Part C1: Cultural Heritage Screening Report</p> <p>Appendix F contains two colour-coded site plans that should be presented in the context of the grey/white zone analysis that is described in the Easement Agreement and supporting Collateral Agreement.</p> <p>The approval process for alternations to City property is included as an appendix (Appendix G) to this report. However, the approval process that applies to Metrolinx – GO Transit was not included and is directly applicable to the proposed network electrification.</p>	<p>See response to comment #2</p> <p>Section 5.1 of the Cultural Heritage Screening Report will be updated to add the following:</p> <p>Section 3.0 of the Collateral Agreement (Exempt Areas) includes drawings prepared by Public Works and Government Services Canada (June 7 2005) illustrating areas exempted from the approval process for alterations as described in Section 1.1 of the Easement Agreement. Drawing #2: Site Plan – Front St. & Platform Level, provides a plan of the Union Station Train Shed. There are no “Exempt Areas” on this Site Plan. <i>[the drawings will be added as Appendix F2]</i></p> <p>The Approval Process for Alterations to GO Properties will be added to the existing Appendix G of the Cultural Heritage Screening Report.</p>
6	Visual	<p>APPENDIX H – VISUAL ASSESSMENT REPORT</p> <p>Page 12: GO Station</p> <p>Union Station is the only station noted in this specific corridor. The draft report notes that the addition of overhead contact system infrastructure has the potential of moderate impact on the trainshed. Mitigation recommendations ask for efforts to be made to minimize the visual effects as much as possible. It is hoped that the same care is also taken on either end of the trainshed as the overhead contact system with also be seen on either side thereby altering the views of the trainshed from the tracks and elsewhere.</p>	<p>Efforts will be made to minimize the visual effects of the OCS infrastructure at either end of the trainshed and within Union Station. The Visual Impact Assessment Report and Draft EPR will be updated with discussion of views to and from either side of the trainshed.</p>
7	Cultural Heritage	<p>APPENDIX M – CULTURAL HERITAGE EVALUATION REPORTS (CHERS) AND HERITAGE IMPACT ASSESSMENT REPORTS</p> <p>Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value</p> <p>Page 11: 2.2 Methodology</p> <p>In the Material Reviewed table, the following corrections are necessary:</p> <p>The Heritage Character Statement dated August 28, 1989 was prepared under the requirements of the Heritage Railway Station, Heritage Railway Stations Protection Act, Government of Canada.</p> <p>The most recent edition of the <i>Standards and Guidelines for the Conservation of Historic Places in Canada</i> is 2010 (not 2003 as noted). Elsewhere in the Draft Environmental Project Report, the 2010 edition is referenced. This later edition is what Parks Canada uses when assessing the suitability of proposed interventions at Union Station.</p> <p>Federal Heritage Designations apply only to buildings owned by the Government of Canada. This does not apply to Union Station. Instead this line should be National Historic Site of Canada, Historic Sites and Monuments Act, Government of Canada, June 9, 1975.</p>	<p>The HIA has been updated as per Parks Canada comments and will be provided as part of the Final EPR.</p>
8	Cultural Heritage	<p>Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value</p> <p>Page 14: 3.1. Discussion of Cultural Heritage Value</p> <p>The content of this subsection focuses on a limited range of values – it focuses on the values determined by the Ontario Regulation 10/06 evaluation and what has been approved by the Metrolinx Heritage Committee. Aside from what is listed in the table in section 2.2, there is no meaningful discussion of all the heritage values associated with Union Station. For instance, there is no articulation of the values and heritage elements that are clearly outlined in the Easement Agreement.</p>	<p>This HIA was completed for the purpose of the current GO Rail Network Electrification TPAP. It is acknowledged that continued consultation with Parks Canada will be required as the project progresses, including formal submissions in accordance with the Collateral Agreement and Easement Agreement as more detailed design information becomes available. Future design work must follow a three stage approval process that begins with reviewing conceptual designs before moving into the final design stage. The HIA has been updated to better reflect this and will be provided as part of the Final EPR.</p> <p>A CHER was completed to satisfy Metrolinx’s obligations under the <i>Ontario Heritage Act</i> and conforms to that process and the provincial Standards and Guidelines. The CHER included the Trainshed under rationale for 9/06 criterion 1.i</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		It would be worthwhile noting why the Ontario Regulation 10/06 evaluation did not mention the trainshed as a contributing feature.	However, the trainshed was not specifically mentioned as a contributing feature under rationale for 10/06 consideration. No further rationale was provided in the CHER that could be noted in the HIA. The SCHV's <i>Description of Provincial Heritage Property</i> does state "The heritage property is composed of the station building (headhouse), its moat and teamways as well as the platforms and trainshed which covers the elevated railway tracks." Under the Easement Agreement the trainshed is a provincially owned asset.
9	Cultural Heritage	Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value Page 19: 3.3 Heritage Recognition The last paragraph states: "The Trainshed is included as a character-defining element 'including: the arched trusses spanning columns between the tracks; the cascade of end façades; and the pattern of smoke ducts'. It ensure the entire meaning behind this bullet from the national historic site Statement of Significance is captured correctly, please ensure that it is fully quoted as follows: "the industrial character of the large, attached Bush train sheds, including: the arched trusses spanning columns between the tracks; the cascade of end façades; and the pattern of smoke ducts" (found at http://historicplaces.ca/en/rep-reg/place-lieu.aspx?id=6299&pid=0)	Metrolinx's consultant confirmed the source of the quote was the Historic Places reference by Parks Canada. http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=6299 The text also appears in the Commemorative Integrity Statement. The HIA has been updated accordingly.
10	Cultural Heritage	Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value Page 25: 5 Discussion of the Proposed Intervention The Executive Summary for this document states "...proposed interventions will have a minor impact on the heritage attributes of the structure...". This conclusion can only be based on the very limited description of the proposed interventions required for electrification of the network. The introductory paragraph to section 5 describes only the alterations that will be required to the trainshed's metal truss system and the pre-cast cement ducts to allow for the installation of the overhead contact system. There is no mention of other alterations that may be required. During recent site visits, Parks Canada had been informed that the electrification of the network will allow for changes to train speeds and enhanced scheduling. This, along with increasing passenger counts, may require that changes be proposed to the trainshed platforms and tracks. The track configuration is a noted as a heritage feature in the Easement Agreement. It is expected that the same heritage considerations will apply to maintaining their value as is being proposed for the metal truss system and the smoke ducts. Further consideration is absolutely necessary to assess how all the required alterations will impact the trainshed and its track configuration. The intent behind the conservation of the platform and tracks immediately south of headhouse was to provide a restored approach. Any required changes to the tracks, platforms and smoke ducts in this portion of the trainshed must address how the restoration approach will be respected and maintained. Not all attachment options were illustrated in the assessment. To ensure that all are fully understood to the same degree, a consistent package of information should be provided for each possible option. Careful modelling of the visual and heritage impact at the ends of the trainshed as well as throughout its length are absolutely necessary.	Please see responses to Comments # 1 & #2 This conclusion is based on the description of the proposed interventions required for electrification as the scope of the report is on electrification modifications only. The report is not intended to assess or speak to any track/platform modifications or glass atrium alterations associated with the Union Station Enhancement Project, which is a separate Metrolinx undertaking. It is acknowledged that continued consultation with Parks Canada will be required as the project progresses, including formal submissions considering cumulative impacts to Union Station as more detailed design information becomes available. Future design work must follow a three stage approval process that begins with reviewing conceptual designs before moving into the final design stage. The HIA has been updated to better reflect this. Metrolinx is unable to provide illustrations for all attachment options since the recommended arrangements are unique to the Trainshed, and the project is still very early in the design process. However, the viable option has been illustrated in the report. The Visual Impact Assessment report will be reviewed and updated as required to include visual impacts at the ends of the trainshed. Metrolinx will seek to understand the work being done by the City of Toronto and consider exploring this suggested mitigation option.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>There is very little discussion about the impact that electrification will have on the new glass atrium. Further studies should ensure that a holistic approach is considered to ensure that the interface between the heritage trainshed and the glass atrium is handled in a skilled and sensitive fashion.</p> <p>One possible mitigation strategy that is proposed is to develop a heritage interpretation strategy that would explain the importance of the trainshed. Metrolinx is encouraged to collaborate with the City of Toronto on this type of initiative. The City of Toronto has already completed extensive background work on a thematic framework that will serve as the foundation for an interpretation strategy for all of Union Station.</p>	
11	Cultural Heritage	<p>Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value</p> <p>Page 35: 7 Sources</p> <p>Three sources were listed but none were provided for context. For instance, a reference was made to a document, Heritage Statement Report – Union Station Complex, that was completed by Taylor and Hazell Architects in June 2016. This appears to have been an instrumental document that informed ERA’s Heritage Impact Assessment. In order to have a full understanding of the integration of these two documents, it would have been beneficial to have Taylor and Hazell Architects’ reports for reference.</p>	<p>The reports listed in the Sources section have been included as an attachment to this comment/response table for information.</p>
12	Cultural Heritage	<p>Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value</p> <p>Page 34: 6 Conclusion</p> <p>This section states that “final designs will be reviewed by Parks Canada and the City of Toronto”. Supporting the Easement Agreement, is a Collateral Agreement between Parks Canada and the two owners of Union Station. The appendices to the Collateral Agreement clearly outline the approval process for alterations to the Station. It is required that future design work follow a three stage approval process that begins with reviewing conceptual designs before moving into the final design stage.</p>	<p>The HIA report was updated to reflect the approval process for alternations to Union Station per the Collateral Agreement. It is acknowledged that continued consultation with Parks Canada will be required as the project progresses, including formal submissions in accordance with the Collateral Agreement and Easement Agreement as more detailed design information becomes available. Future design work must follow a three stage approval process that begins with reviewing conceptual designs before moving into the final design stage. The HIA will be updated to better reflect this.</p> <p>Metrolinx will share conceptual and final designs and meet the requirements of the Collateral Agreement.</p>
13	Cultural Heritage	<p>Part M1: Union Station Heritage Impact Assessment and Statement of Cultural Heritage Value</p> <p>Page 36: Appendix</p> <p>This section provides a very limited selection of heritage designation by-laws or agreements. To fully appreciate the impact electrification may have on the trainshed, there is merit in including all the heritage documentation in this section.</p>	<p>The HIA Appendix was updated to include the following:</p> <ul style="list-style-type: none">- 1989 Heritage Character Statement- 2000 Commemorative Integrity Statement- 2000 Heritage Easement Agreement- Union Station Designation By-Law No. 948-2005
14	EPR List of References	<p>APPENDIX U - LIST OF TECHNICAL REPORTS AND STUDIES REVIEWED</p> <p>The only reports addressing cultural heritage listed in this section pertain to archaeological resources. Nothing on Union Station is listed nor is there anything listed for other cultural resources found throughout the network. This deficiency should be addressed.</p>	<p>Noted. The List of Technical Reports and Studies Reviewed will be revised accordingly.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
PARKS CANADA – ROUGE NATIONAL URBAN PARK			
General			
1	Cultural Heritage, Visual, Noise, Natural Environment	<p>The most significant area of concerns for Parks Canada is the absence of any recognition of Rouge National Urban Park along the Stouffville GO Corridor. We also note the 2014 draft management plan for the park is not listed as a reference and was presumably not considered. It follows that the EPR does not consider impacts on this portion of the park in terms of the park vision and character, as well as related Parks Canada legislation, plans and policies as they pertain to the park. In our view this omission must be addressed prior to the finalization of the EPR. The detailed comments and suggestions we have provided in this letter should help Metrolinx and its EPR consultants rectify this situation.</p> <p>Key areas of concerns associated with the Stouffville corridor as it traverses Rouge National Urban Park include:</p> <ul style="list-style-type: none">• The lack of recognition of the park’s cultural landscape value and visitor experience priorities, insufficient attention to visual character/viewsheds and the lack of assessment and mitigation of related potential impacts.• The need to fully assess the potential for noise impacts on residences in the park, and the provision of specific strategies for attenuating noise impacts for those exceeding provincial standards (the EPR currently identified on residence in the park that will be exposed to higher night-time noise levels)• A lack of clarify of the extent of vegetation clearance that may extend beyond the right-of-way• The need to coordinate ecological restoration planned by Parks Canada in the vicinity of the rail corridor west of 9th Line with any electrification infrastructure.	<p>Noted. Acknowledgement and reference to Rouge National Urban Park along the Stouffville GO Corridor will be included in appropriate sections of the EPR and supporting technical documents. Including:</p> <ul style="list-style-type: none">• An examination of the Park’s cultural heritage value and potential impacts to the viewshed, cultural landscape value and visitor experience; and mitigation of impacts <p>The potential for noise impacts on residences within Rouge National Urban Park has been assessed within our study. For presentation purposes, only R55 and R56 are presented in detail within our report. These receptors are worst case representatives in comparison to the other residences located to the north and south along the rail line.</p> <ul style="list-style-type: none">• Vegetation removal areas along the corridor including within and outside the Metrolinx property have been provided in EPR Vol. 3 and the Natural Environment Impact Assessment Report (Appendix A2). Corresponding mapping of the OCS Impact/Vegetation Removal Zones has been provided. Further revisions will be made to clarify the extent or location of removals within RNUP.• Additional information received from Parks Canada on April 21, 2017 in relation to the ecological restoration planned in the vicinity of 9th Line will be reviewed and further discussions/coordination will be undertaken, as required.
2	Cultural Heritage, Natural Environment	<p>In the Rouge Beach/Marsh area, our concerns relate to:</p> <ul style="list-style-type: none">• Potential visual effects that may compound the effects of the widened LSE corridor on the cultural landscape value of this area of the park. (in our comments on the GO LSE Expansion EPR we noted the presence of cultural landscape values in this area.)• Effects on the visual environment supporting the visitor experience of this area, which Parks Canada surveys indicate to be in the area of 300,000 visitors during the summer season.• The need to coordinate vegetation clearing/mitigation with planned retaining walls, particularly on the north side of the corridor where corridor widening will not occur.• Potential effects of additional wires and supporting structures on the north-south movement of birds between Rouge Marsh and areas north and Lake Ontario	<ul style="list-style-type: none">• The Visual Impact Assessment and Cultural Heritage Impact Assessment will be reviewed and updated with respect to Rouge Beach/Marsh area along the LSE Corridor• During detailed design, efforts will be made to minimize visual effects of the Overhead Contact System (OCS) infrastructure as much as possible within RNUP.• The extent of vegetation removal will be confirmed during detail design. For the purposes of the TPAP, the project team has taken a conservative approach. Further consultation and coordination for any proposed tree/vegetation removals beyond Metrolinx property will be undertaken as the project’s design progresses.• With respect to impacts to migratory birds please see the response to Comment #12 below.
3	Referencing	<p>In general, Parks Canada would like to see the following improvements made to the EPR and its appendices:</p> <ul style="list-style-type: none">• More references to the park and to Parks Canada in the relevant sections of the EPR (including future commitments for consultation)• A more through documentation of park values along the relevant corridors and a commensurate level of assessment of impacts, particularly in relation to the visual environment and cultural landscape values• Identification of mitigation related to the park• Better integration of the EPR assessment and mitigation in relation to the LSE expansion	<ul style="list-style-type: none">• The Draft EPR will be reviewed and updated, including text and mapping to include more references to Rouge National Park as appropriate in the Lakeshore East and Stouffville sections.• Identification of mitigation in relation to RNUP will be provided.• Note the LSE Expansion TPAP is a separate undertaking with different levels of design, impacts and associated mitigation. The Electrification EPR will focus solely on impacts and mitigation associated with Electrification infrastructure. However, there is ongoing coordination between Electrification and other projects to better integrate design and mitigation in a holistic manner.• Park limits will be indicated on maps within Volume 1 of the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">Inclusion of the park limits on mapping as requiredAmendments to some the map content depicting the interior of the park	
4	Consultation, Visual, Natural Environment	<p>We recommend the following next steps:</p> <ul style="list-style-type: none">A meeting involving Metrolinx, its consultants, and Parks Canada to discuss specific concerns relating to the visual environment, cultural landscapes, noise attenuation, and natural environment concernsA more comprehensive assessment of visual impacts of electrification infrastructure (eg. Poles, wires etc) on the cultural landscape and views of the parkWe will want to review drafts of the vegetation clearing and vegetation management plans cited in the EPR for the Stouffville and LSE corridors where they abut Rouge National Urban Park. We suggest this work be coordinated with related ecological restoration planned by Parks Canada, such as the 9th Line restoration project mentioned above.Should any vegetation clearing, other work, or impacts of this vegetation clearing or work extend beyond the right-of-way, permits supported by an Environmental Impact Assessment, will be required from Parks Canada.	<ul style="list-style-type: none">Metrolinx is in agreement that a meeting would assist with providing Parks Canada with a better understanding of the project and potential impacts. A meeting will be arranged with Parks Canada to discuss various concerns and proposed solutions.The Visual Impact Assessment and Cultural Heritage Impact Assessment will be reviewed and updated to include RNUP. Visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS. Best design practices will be followed for designing OCS in order to minimize visual impacts as much as possibleFurther consultation with Parks Canada on vegetation management plan on affected Parks Canada land, if any, will be undertaken as the project’s design progresses. Additional information received from Parks Canada on April 21, 2017 in relation to the ecological restoration planned in the vicinity of 9th Line will be reviewed and further discussions/coordination will be undertaken, as required.Please refer to the response to item #7 below for detail regarding potential impacts outside for MX owned property.With respect to the completion of an EIA please see the response to comment #43
5	Tree/Veg Removal	<p>Page xxxv (PDF pg. 36) (OCS Impact Zone)</p> <ul style="list-style-type: none">It is not clear from this description (and many of the maps in Appendix N) if the vegetation clearing zone extends beyond the corridor right-of-way, particularly along the Stouffville corridor through Rouge National Urban Park (RNUP). We would like to review maps of higher resolution in the RNUP area.We also request that clearing be limited in the right-of-way next to the park while maintaining standards. Parks Canada’s “Rouge National Urban Park Best Management Practices for Tree Removal, Trimming, or Planting” can provide guidance and is available upon request.	<p>Calculations for tree/vegetation removals within and outside Metrolinx property have been identified in the Natural Environment Impact Assessment Report (Appendix A2) and EPR Volume 3. During detailed design, Metrolinx will complete a tree inventory to meet municipal permit requirements. Further updates will be made to clarify any removals on Parks Canada lands. Please refer to the response to item #7 below for detail regarding potential impacts outside for MX owned property.</p> <p>For the purposes of the TPAP, the project team has taken a conservative approach to quantifying tree/vegetation removals based on ELC analysis as outlined in the (Natural Environmental Impact Assessment Report (Appendix A2) and EPR Volume 3. Metrolinx would like to further discuss with Parks Canada the specific permit/approval requirements that will pertain to vegetation removals on RNUP lands.</p> <p>It is also requested that Parks Canada provide their “Rouge National Urban Park Best Management Practices for Tree Removal, Trimming, or Planting” for the project’s team review and consideration.</p>
6	Visual/Cultural Heritage	<p>Page 23 (PDF pgs. 62-63) (3.6.4 Vegetation Clearing Zone)</p> <ul style="list-style-type: none">The EPR makes no reference to the presence of RNUP along the Stouffville corridor. We note later in our comments that visual impacts on RNUP and its cultural landscape values are not identified.	<p>Noted. These sections will be reviewed and appropriate consideration of RNUP along the Stouffville corridor will be provided per Response to Comment #1 above.</p>
7	Scope/Natural Environment	<p>Page 73 (PDF pgs. 112-113) (2.3.1 Study Area Buffer Zones)</p> <ul style="list-style-type: none">As stated for PDF pg. 36 above, it is not clear from this description (and many of the maps in Appendix N) if the vegetation clearing zone extends beyond the corridor right-of-way, particularly along the Stouffville corridor through RNUP. We would like to see more detailed maps.<ul style="list-style-type: none">As per comments on PDF pages 36 and 112. Volume 3 details alluded to in this section are not precise enough to make a determination on specific impacts beyond the Stouffville corridor right-of-way in RNUP. We would like to see more detailed maps.	<p>An estimate of the extent of the vegetation removal zone that extends beyond Metrolinx property and on RNUP lands along the Stouffville and Lakeshore East rail corridors is provided as follows:</p> <p>Stouffville corridor – see attached map</p> <ul style="list-style-type: none">Extent of 7m vegetation removal zone along STV corridor within RNUP boundaries and that fall outside the MX ROW = 311.6m², ownership¹² of these lands are as follows:

¹² Property ownership based on available data from Teranet.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx			
			PIN	Owner	Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries	
			037310487	Federally owned	7.56 m2	
			030620437	Federally owned	0.004 m2	
			030630029	Federally owned	68.73 m2	
			030630028	York Region	139.86 m2	
			030630001	Markham	95.44 m2	
			TOTAL			311.63 m2
			Lakeshore East corridor – see attached map			
8	Natural Environment	Page xciv (PDF pg. 95) (Stouffville Corridor, Natural Environment) <ul style="list-style-type: none">Rouge National Urban Park must be referenced in this section, as well as ecological restoration that has occurred in connection with the 9th Line widening and that which is planned on the west side of 9th Line by Parks Canada. Metrolinx has been contacted with respect to this latter project.	Extent of 7m vegetation removal zone along LSE corridor within RNUP boundaries that falls outside the Metrolinx ROW = 51.9 m2 – lands are owned by TRCA			
			Noted. Metrolinx will revise the Stouffville Corridor Natural Environment section (pg xciv) to include Rouge National Urban Park and well as ecological restoration work near 9 th Line, and additional information received from Parks Canada on April 21, 2017 in relation to the ecological restoration planned in the vicinity of 9 th Line.			
			Metrolinx will reach out to Parks Canada to schedule a meeting to discuss the 9 th Line restoration project.			
9	Cultural Heritage	Page xciv (PDF pg. 96) (Stouffville Corridor, Cultural Heritage) <ul style="list-style-type: none">RNUP has cultural resource values related to cultural landscapes, built heritage, and archaeology. It is likely that views of and from the park cultural landscape will in some cases include the electrification system.	RNUP should be identified as an adjacent cultural heritage landscape. Report will be updated accordingly.			
10	Land Use	Page xcvi (PDF pg. 97) (Stouffville Corridor, Land Use and Socio-economic) <ul style="list-style-type: none">The absence of any reference to Rouge National Urban Park requires correction.	Rouge National Urban Park has been added to the Land Use and Socio-Economic Report (Appendix E) in Segments SV-6 and LSE-5.			
11	Visual	Page ci (PDF pg. 102) (Stouffville Corridor, Visual) <ul style="list-style-type: none">The potential visual impacts of the electrical support system through the open landscapes of a national protected area—Rouge National Urban Park—should be noted, particularly as the park has cultural landscape value.	Potential visual impacts on RNUP and its cultural landscape along the Stouffville corridor will be considered in the EPR. Visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS. Best design practices will be followed for designing OCS in order to minimize visual impacts as much as possible. Refer to Visual Impact Assessment report, Appendix H.			
12	Natural Environment	Page cv (PDF pg. 106) (Lakeshore East Corridor, Natural Environment) <ul style="list-style-type: none">The potential effects of heightened structures in a bird migratory route at the Rouge Beach/marsh area must be acknowledged. Parks Canada will need to review the detailed design to determine potential impacts to birds entering in this area, considering it likely that the overhead structures will be built higher than the existing infrastructure. An additional consideration is if there is potential for birds to be harmed if they land on the wires or their supporting structures.	It is requested that Parks Canada provide more detailed information regarding bird migratory routes in the vicinity of Rouge Beach/marsh area for review and consideration with respect to addressing impacts to migratory birds along LSE. Impacts to migratory birds are anticipated to be low as the infrastructure will be placed within an active/existing rail corridor. The height of the portals/cantilevers used to support the OCS wires over the electrified tracks will range between approximately 7.6m to 12m above the top of the highest rail as outlined in EPR Volume 1. Contact wire			

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>height will range from 6m to 7.6m. The OCS will not create a solid barrier to migratory bird movement as they will have the ability to navigate around the wires, similar to electrical transmission lines located elsewhere throughout Ontario.</p> <p>There is limited/no risk to birds associated with the OCS wires or supporting structures with respect to electrocution as the conductor cables and ground wires will not be positioned within close enough proximity. Birds can perch on a wire without harm.</p>
13	Cultural Heritage	<p>Page cvi (PDF pg. 107) (Lakeshore East Corridor, Cultural Heritage)</p> <ul style="list-style-type: none">The cultural landscape value of the Rouge Beach/Marsh area and the heritage character of the Rouge River bridges must be referenced here. (Parks Canada noted these components as important to the area in comments on the GO Lakeshore East expansion EA and are available upon request.)	<p>To accurately reflect the cultural heritage screening report, this section should read: <i>A total of 51 resources were subject to screening. Of these, 37 were determined to be non-heritage properties; four were determined to be Conditional Heritage Properties; three were determined to be Potential Provincial Heritage Properties; three were determined to be PHP/PHPPS; and four were determined to be protected heritage properties adjacent to the study area. CHERs are recommended for six resources: Don River Bridge, Carlaw Avenue Bridge, Gerrard Street East Bridge, Pape Avenue Bridge, and Birchmount Road Bridge.</i></p> <p>RNUP will be added as an adjacent protected heritage property and considered in the Heritage Impact Assessment report in Appendix C2.</p>
14	Visual	<p>Page cxiii (PDF pg. 107) (Lakeshore East Corridor, Visual)</p> <ul style="list-style-type: none">The potential visual effects of the structures on the cultural landscape of the Rouge Beach/Marsh area and the heritage character of the Rouge River bridges must be referenced here. Additionally, visitors will see added height to the structures, and the design of the wire support structures needs to be integrated with the bridge and the retaining wall package being developed as part of the GO Lakeshore East expansion.	<p>Regarding planned/necessary design coordination with the LSE Guildwood to Pickering Expansion Project, as part of that project/TPAP, there were MDRP meetings (where Parks Canada participated as Guest Panelist) for the design of the Rouge River bridge, Highland Creek bridge and Retaining Wall along the Port Union Waterfront.</p>
15	Cultural Heritage	<p>Page 29 (PDF pg. 143) (1.5.3.1 Screening for Cultural Heritage Resources)</p> <ul style="list-style-type: none">We note that the EPR references cultural landscapes as a component of cultural heritage in its review, but does not identify Rouge National Urban Park in this regard.We note that while the EPR indicates heritage planners “from each of the single or lower-tier municipalities within the Study Area was contacted directly” no contact was made with Rouge National Urban Park staff in this regard.	<p>See responses to Comments #9 and 13 above.</p>
16	Visual	<p>Page 36 (PDF pg. 150) (1.5.8 Visual)</p> <p>The methodology does not appear to account for views of the rail corridors from public places, such as Rouge Beach/Marsh in RNUP, and across the open protected landscapes along the Stouffville corridor in the north end of RNUP.</p>	<p>See responses to Comments #11 and 14.</p>
17	Natural Environment	<p>Page 324 (PDF pg. 438-440) (6.1.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 6.1.9.1 Terrestrial)</p> <p>This segment of the Stouffville corridor passes directly through Rouge National Urban Park. This, and Parks Canada’s jurisdiction in this area, needs to be acknowledged. The park was established to protect natural, cultural, and agricultural resources in the area, all which are valued equally under the <i>Rouge National Urban Park Act</i>.</p>	<p>Noted. We will revise Section SV-6 and associated figures to include the Rouge National Urban Park lands.</p>
18	Cultural Heritage	<p>Page 338 (PDF pg. 452) (6.3.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station)</p>	<p>See response to Comment #9 above.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		We disagree with the statement “No cultural heritage resources are located in Section SV-6.” This segment of the Stouffville corridor traverses Rouge National Urban Park. The proximity to the cultural landscape of Rouge National Urban Park, and the park itself, must be acknowledged.	
19	Archaeology	Page 343 (PDF pg. 457) (6.4.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station) If any vegetation clearing is required on RNUP lands beyond the rail corridor, Metrolinx must contact Parks Canada regarding archaeological assessment.	This project impact area within this section has been identified in the Stage 1 Archaeological Assessment (Appendix D2) as deeply disturbed by rail corridor construction and as such has no archaeological potential and will not require further archaeological assessment. Please also refer to response #7 above related to potential vegetation clearing required outside of MX property, within RNUP. Please advise whether any of these specific areas may require archaeological assessment in accordance with Parks Canada established processes.
20	Land Use	Page 344 (PDF pg. 458) (6.5 Land Use & Socio-Economic) The absence of any reference to the park is a major omission in the description of this segment; add text describing RNUP and its protection and presentation of natural, cultural, and agricultural heritage.	See response for comment #10
21	Land Use	Page 350 (PDF pg. 464) (6.5.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 6.5.9.1 Existing Land Use) <ul style="list-style-type: none">Reference RNU and its protection and presentation of natural, cultural, and agricultural heritage.The statement “There are no trails, large parks, or other recreational amenities along this section of the rail corridor” ignores the presence of RNUP. Add a reference to the park.Review the 2014 draft management plan for RNUP and identify a) the park, and b) proposals for the north end of the park. More recently, Parks Canada has developed ecological restoration plans for a portion of the rail corridor west of 9th Line, and will have welcome areas and trails, some of which will have views of the corridor. These park improvements could be exposed to visual impacts of GO electrification infrastructure.	See response for Comments #1 and #10
22	Noise	Page 359 (PDF pg. 473) (Table 6-21, Noise receptors) <ul style="list-style-type: none">R55 and R56 are leased residences along 9th Line in RNUP that are administered by Parks Canada. (Vol 3, p.920 identifies a night-time noise increase for R56 beyond provincial standards.) We note the presence of other RNUP residences on 9th Line that appear to be closer to the rail corridor and would like to see the noise analyses relating to these residences.	As noted in response to Comment #1, the additional residences in question within Rouge National Urban Park have been assessed within our study. For presentation purposes, only R55 and R56 are presented in detail within our report. These receptors are worst case representatives in comparison to the other residences located to the north and south along the rail line. Although the receptors may appear closer to the rail line they do not have noise impacts which exceed 5 dB, thus mitigation was not investigated at these locations. The exceedance of NR56 is due to the proximity of the residence to the adjacent rail crossing. The whistling of trains at this location results in elevated noise emissions, hence triggering the investigation of mitigation. The barrier investigated for receptor NR56 was not found to be technically feasible (i.e. it did not achieve a reduction of 5 dB).
23	Noise	Page 367 (PDF pg. 481) (Figure 6-20: Stouffville Corridor Receptor and Existing Barrier Locations 12) <ul style="list-style-type: none">We recommend adding the RNUP boundaries on these aerial photos of R55 and R56.	The RNUP boundaries will be shown on Figure 6-20
24	Visual	Page 378 (PDF pg. 492) (6.8.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station) <ul style="list-style-type: none">The description omits the presence of Rouge National Urban Park in this segment. Potential visual effects on character of the cultural landscape and visitor experience in this part of the park should be noted, assessed, and documented.	See responses to Comments #11 and 14.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
25	Natural Environment	Page 391 (PDF pg. 505) (Table 7-1: Summary of Potential Species at Risk within the Immediate and General Area of the Lakeshore East Corridor) <ul style="list-style-type: none">Eastern Pondmussel should be included in this list. There is a published recovery strategy that includes critical habitat in this area.	Noted. Eastern Pondmussel will be added to the Summary of Potential Species at Risk table. As stated in the report, no in-water works are proposed as part of the proposed Electrification project. However, mitigation in Section 3.8 of the Natural Environment Impact Assessment report (Appendix A2) identifies that should in-water works be determined at the Detail Design phase, they will be required to abide by timing windows for in-water work identified by MNRF. Additional commitment to consult with DFO should impacts to Eastern Pond Mussel be identified.
26	Natural Environment	Page 402 (PDF pg. 516) (7.1.9 Corridor & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station) <ul style="list-style-type: none">Parks Canada will need to review the detailed design to determine potential impacts to birds entering in this area, considering it is likely that the overhead structures will be built higher than the existing infrastructure. An additional consideration is if there is potential for birds to be harmed if they land on the wires or their supporting structures.	See response to comment #12.
27	Land Use	Page 406 (PDF pg. 520) (6.5.9 Corridor & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 6.5.9.1 Existing Land Use, 7.1.9.4 Designated Areas) <ul style="list-style-type: none">Reference to Rouge National Urban Park is relevant to the LSE, but also to the Stouffville corridor. There is no EPR/appendices documentation relating to the Stouffville corridor, which traverses RNUP over a much longer distance. Reference to the park should be included earlier in the EPR in connection with both LSE and Stouffville corridors.	See response for comment #10
28	Cultural Heritage	Page 421 (PDF pg. 535) (Table 7-16: Cultural Heritage Resources for LSE-5) <ul style="list-style-type: none">Volume 3 of the EPR states (p. 83): "CHER completed (as part of separate EA study)." This statement should be inserted under "Recommendation."	The CHER has already been undertaken. Therefore, no further work is recommended or required as part of this study. No change is required.
29	Land Use	Page 440 (PDF pg. 554) (7.5.9 Corridor & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station, 7.5.9.1 Existing Land Use) <ul style="list-style-type: none">The reference should be to "Rouge National Urban Park" (not "Rouge Park"). The high visitor use of the beach and marsh area (Parks Canada estimates of 300K per year in the summers of 2013 and 2014) should also be noted as a factor.	<p>The reference in Section 7.5.9.1 will be corrected to Rouge National Urban Park.</p> <p>For the purposes of the Land Use assessment study for the Electrification project, the term 'sensitive receptor' is defined in the Land Use and Socio-Economic Baseline Report Section 3.2 (Appendix E1) as: "child care centres, schools, long term care centres, and hospitals." The term 'sensitive receptor' is defined by various policies, including the Provincial Policy Statement (PPS). The PPS defines 'sensitive land uses' for the purposes of assessing land use planning and development projects under The Planning Act. Further, 'contaminant discharges generated by a nearby major facility' are not anticipated or included as part of the electrification project works.</p> <p>The Land Use assessment for the Electrification TPAP focused on the potential effects to sensitive land uses as defined above in order to avoid overlap with the sensitive receptors reviewed by other disciplines. The present definition helps streamline the assessment while still avoiding gaps in the assessment process. Additional information pertaining to sensitive receptors and the direct and indirect impacts to all land-uses as defined by the PPS can be found in the: Natural Environmental Assessment Report (Appendix A), Noise and Vibration Modelling Reports (Appendix G), and the Visual Assessment Report (Appendix H).</p> <p>Furthermore, the Noise and Vibration Assessment Reports contained in Appendix G as well as the Visual Assessment Report contained in Appendix H consider effects related to noise, vibration and visual on sensitive features such as parks in the vicinity of the rail corridors and traction power facilities in detail. Therefore, this same assessment of effects on nearby parks does not need to be duplicated in the Land Use Assessment Report.</p> <p>Various mitigation measures have been proposed to minimize adverse visual effects, noise/vibration effects where required – these are detailed throughout EPR Volume 3 and summarized in Tables 11-7 and 11-8 of Volume 3.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			In addition, as described in Volume 1 Section 3.4 including Table 3-1, the process followed to identify potential TPF sites was based on avoiding residential areas to the greatest extent possible.
30	Visual	<p>Page 474 (PDF pg. 588) (7.8.9 Corridor & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station)</p> <ul style="list-style-type: none">The visual analysis of the Rouge Beach/River area is perfunctory in nature and needs to be elaborated upon. Visual effects of electrification need assessed in terms of the heritage character of the bridge replacement, the natural feel of the marsh, etc., and the compatibility with planned retaining walls on north and south sides of the corridor—the south wall is planned as a support for public art/interpretive media. Views up close and views from the water and from the marsh boardwalk, and from the pedestrian bridge, should be assessed.	<p>The report will be updated to include assessment of visual impacts to the RNUP. Retaining walls were assessed as part of the LSE EA, reports are available online:</p> <p>http://www.metrolinx.com/en/regionalplanning/rer/guildwood-pickering.aspx</p> <p>As part of the LSE project/TPAP, there were MDRP meetings (where Parks Canada participated as Guest Panelist) for the design of the Rouge River bridge, Highland Creek bridge and Retaining Wall along the Port Union Waterfront.</p> <p>Also see response to Comment #14.</p>
31	Natural Environment	<p>Page lxix (PDF pg. 72) (Stouffville Corridor)</p> <ul style="list-style-type: none">Rouge National Urban Park must be added to this list of “designated areas.” Parks Canada asks that it review any detailed vegetation clearing plans prior to their finalization where the LSE and Stouffville corridors cross RNUP. We would also like to be notified of any butternut trees found in or next to the corridor in RNUP.Please contact Parks Canada Resource Conservation staff when planning any vegetation clearing work.	<p>Noted. Please see responses to Comments #5 and 7.</p> <p>The presence/absence of Butternuts will be confirmed during detailed tree inventories of impacted areas during Detail Design. Should any Butternuts be found during detailed tree inventories, appropriate approvals under SARA will be obtained. Parks Canada will be notified in the event any Butternut trees are identified, and the EPR will be updated to include this commitment.</p> <p>In the event of any vegetation clearing work outside Metrolinx property within the RNUP notification and coordination with Parks Canada Resource Conservation Staff will be carried out.</p>
32	Natural Environment	<p>Page lxx (PDF pg. 73) (Lakeshore East Corridor)</p> <ul style="list-style-type: none">As per comment on page lxx (PDF Pg. 73).	Incomplete comment?
33	Visual	<p>Page cii (PDF pg. 105) (Table E-4 Areas of special VISUAL/aesthetic consideration)</p> <ul style="list-style-type: none">Rouge National Urban Park along the Stouffville corridor should be identified in this list as a high visual impact area in terms of the corridor's proximity to the park's cultural landscapes.Reference to Rouge Beach/Marsh should be added to this list of scenic areas given the high visitation to these areas.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP, per Response to Comment #1 above.
34	Visual	<p>Page ciii (PDF pg. 106) (Visual Mitigation Measures to be Considered)</p> <ul style="list-style-type: none">The text should explain the range of visual effects mitigation to be employed in RNUP.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP, per Response to Comment #1 above.
35	Natural Environment	<p>Pages 749-756 (PDF pgs. 859-856) (7.1.10 OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 7.1.10.1 Potential Effects and Mitigation Measures)</p> <ul style="list-style-type: none">Rouge National Urban Park must be referenced throughout this section.Any impacts or work including vegetation clearing on Rouge National Urban Park lands that which may occur during the lifetime of these structures will require completion of a Parks Canada Environmental Impact Assessment.Pg. 751: Parks Canada will need to review the draft Vegetation Management plans for sections that travel through Rouge National Urban Park.Pg. 753: The 9th Line Restoration Project, which is Redside Dace habitat, is most likely within 30 m of the tracks. Parks Canada must be consulted during the detailed design phase along with MNRF.	<p>Noted. MX will revise Section SV-6 of the ERP and figures to include the Rouge National Urban Park. Additional information received from Parks Canada on April 21, 2017 in relation to the ecological restoration planned in the vicinity of 9th Line will be reviewed with respect to Redside Dace. The Natural Environment Report and EPR will be updated as required. Parks Canada and MNRF will be consulted during detailed design regarding permitting requirements if required.</p> <p>Please see response to Comment #4 with respect to Vegetation Management plans.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
36	Cultural Heritage	Page 778 (PDF pg. 888) (OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station) <ul style="list-style-type: none">Effects on the cultural landscape value and visitor experience of the park along the Stouffville corridor should be identified as well as mitigation.	RNUP will be added as an adjacent cultural heritage landscape and assessed in the Cultural Heritage Impact Assessment Report (Appendix C). The management plan for the park will serve as the basis for assessing impacts and making recommendations.
37	Noise	Page 810 (PDF pg. 920) (Table 7-28: Adjusted Noise Impacts of the Electric RER Scenario in Comparison to Existing GO Service – Stouffville Corridor) <ul style="list-style-type: none">The table identifies night time noise impacts for R56, a leased residence on the east side of 9th Line in RNUP. We have suggestions for mitigation later in this report and in appendices G5 and S5.We also believe additional analysis is required in the EPR to demonstrate the presence or absence of noise impacts on other RNUP residences on 9th Line that appear closer to the rail line than R56.	Please see response to Comment #22.
38	Noise	Page 812 (PDF pg. 922) (7.8.7 Approach to Investigation of Mitigation - Operational Noise) <ul style="list-style-type: none">We disagree with the statement “For the purposes of this study, it was assumed that noise mitigation would be limited to locations within the GO Transit right-of-way.” This should not be a blanket assumption; we recommend on-site mitigation for R56 which is identified as exposed to night-time levels above provincial standards, and possibly other residences in RNUP as noted under the previous point.	On-receptor mitigation is not typically accepted in Ontario. Receptor-based mitigation (such as upgraded windows) only achieve indoor sound levels when windows are closed, not when windows are open. Additionally, on-receptor mitigation does not address sound at outdoor living areas. Therefore, mitigation was limited to noise barriers, which reduce sound for open windows, closed windows, and outdoor living areas.
39	Visual	Page 830 (PDF pg. 940) (7.10.10 OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 7.10.10.1 Potential Effects and Mitigation Measures) <ul style="list-style-type: none">This analysis ignores the presence of the national urban park and its protection and presentation of natural, cultural, and agricultural heritage. The "undefined" viewshed (as mapped by Metrolinx) through the park should be better defined as it is likely to extend well into the park.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP.
40	Natural Environment	Pages 931- 936 (PDF pgs. 1041-1046) 8.1.10 OCS & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station, Impacts Related to Bridge Modifications) <ul style="list-style-type: none">With regard to bridges being monitored daily for new bird nests (pg. 932), what is the plan for dealing with nests when found? If this will affect birds from Rouge National Urban Park, Parks Canada will need to review the mitigation measures.Same comments as noted elsewhere relate to vegetation clearing plans.	<p>As noted in section 10.1.2.1.1.1. (pg 1156) of EPR Volume 3, nests of migratory birds may be encountered on bridges where OCS attachments are required. To ensure compliance with the MBCA, the following mitigation measures are proposed in order to reduce or mitigate the potential for adverse effects on birds and their nests:</p> <ul style="list-style-type: none">Bridges shall be inspected for nests and eggs prior to any construction activities.Nests and eggs of protected migratory birds shall not be destroyed during migratory bird nesting season (April 1st to August 31st)Nests and eggs of protected Species at Risk birds shall not be destroyed at any time. If the nest of a protected Species at Risk must be damaged or destroyed, a permit under the Endangered Species Act is required.If a nest is removed from bridge, the bridge should be netted outside of the breeding bird season to prevent the recurrence of nesting activity.No bridge modifications are required at bridges located within or immediately adjacent to the Rouge National Urban Park lands. Additionally, Construction works within the OCS are not anticipated to affect birds within Rouge National Urban Park lands. <p>As noted in the section 9.1.1.1.1.1 (pg 1124) of EPR Volume 3, the removal of bird’s nests may also result from vegetation removal activities. Nests of migratory birds are protected by the federal Migratory Birds Convention Act. This Act prohibits harm to migratory birds and their nests, eggs and young. Nest of Species at Risk birds are protected by the provincial Endangered Species Act. Under this Act, no person shall kill, harm, harass, capture or take a living member of a protected species or damage or destroy its habitat. The following mitigation measures are proposed in order to reduce or mitigate the potential for adverse effects on birds and their nests:</p> <ul style="list-style-type: none">Vegetation shall be inspected for active nests and eggs prior to maintenance activities.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Active nests and eggs of protected migratory birds shall not be destroyed during migratory bird nesting season (April 1st to August 31st) to avoid a permit under the Migratory Birds Convention Act. If an active nest of a migratory bird must be damaged or destroyed, a permit under this Act is required.Nests and eggs of protected Species at Risk birds shall not be destroyed at any time.
41	Cultural Heritage	<p>Page 1039 (PDF pg. 1149) (8.10.9 OCS & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station, 8.10.9.1 Potential Effects and Mitigation Measures)</p> <ul style="list-style-type: none">The cultural landscape value of this highly visited area suggests to us a high visual impact. The text should reference RNUP and the 300,000 people each summer that use the beach /marsh area, as well as plans for future visitor welcome area that will enhance this area's attractiveness for visitor use. Mitigation should be spelled out in terms of these features and the cultural landscape value of the area.	Please see response to Comment #36.
42	Visual	<p>Page 1137 (PDF pg. 1247) (9.9 Visual, 9.9.1 Potential Effects and Mitigation Measures)</p> <ul style="list-style-type: none">More detail is recommended. For example, use clean, unobtrusive pole/systems where the Stouffville and GO Lakeshore East corridors cross RNUP.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP. See response to Comment #11.
43	Natural Environment	<p>Pages 1124-1126 (PDF pgs. 1234-1236) (9.1 Natural Environment, 9.1.1 Overhead Contact System, 9.1.1.1 Potential Effects and Mitigation Measures)</p> <ul style="list-style-type: none">Any impacts or work including vegetation clearing on Rouge National Urban Park lands that may occur during the lifetime of these structures will require completion of a Parks Canada Environmental Impact Assessment.	<p>See response to comment #7.</p> <p>A review of the <i>Guide to the Parks Canada Environmental Impact Analysis Process, June 2015</i> document was undertaken. It is understood that Parks Canada has specific obligations under CEAA 2012 to ensure that no project on the lands and waters it manages is authorized unless a determination is made that the project does not have the potential to result in significant adverse environmental effects.</p> <p>Based on the <i>EIA Decision Framework</i> and review of Section 2.3.4 Alternative Process it is understood that there are approved alternative planning and permitting processes that can exempt the requirement for the preparation of an EIA.</p> <p>The GO Rail Network Electrification Project is following the prescribed requirements under <i>Ontario Regulation 231/08 Transit Projects and Metrolinx Undertakings</i> under the <i>Ontario Environmental Assessment Act</i>. Specifically under Section 9 of the Regulation, the Proponent is required to prepare an Environmental Project Report which includes but not exclusive to the following:</p> <ol style="list-style-type: none">A statement of the purpose of the transit project and a summary of background information relating to the transit project.The final description of the transit project, including a description of the preferred method of carrying out the transit project, and a description of the other methods that were considered.A map showing the site of the transit project.A description of the local environmental conditions at the site of the transit project.A description of all studies undertaken in relation to the transit project, including,<ol style="list-style-type: none">a summary of all data collected or reviewed, anda summary of all results and conclusions.The proponent's assessment and evaluation of the impacts that the preferred method of carrying out the transit project and other methods might have on the environment, and the proponent's criteria for assessment and evaluation of those impacts.A description of any measures proposed by the proponent for mitigating any negative impacts that the preferred method of carrying out the transit project might have on the environment.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>8. If mitigation measures are proposed under paragraph 7, a description of the means the proponent proposes to use to monitor or verify their effectiveness.</p> <p>The EPR and corresponding detailed environmental studies/impact assessment reports (contained in Appendices A through T) and associated commitments to mitigation measures/plans (including Vegetation/Tree Compensation to offset removals) sufficiently demonstrate that the project is not anticipated to result in significant adverse environmental effects given the mitigation measures recommended for implementation. Metrolinx would like to further discuss this with Parks Canada to confirm the work completed through the TPAP process and associated Environmental Project Report and supporting reports satisfy the noted EIA requirements.</p>
44	Cultural Heritage	<p>Page 1215 (PDF pg. 1325) Table 11-3 Summary of Cultural Heritage Mitigation and Monitoring Commitments)</p> <ul style="list-style-type: none">We recommend the use of clean, unobtrusive pole/systems for the Rouge River Bridge.	See responses to Comments #11 and #36.
45	Commitments/Future Work	<p>Page 2 (PDF pg. 26) (Parks Canada)</p> <ul style="list-style-type: none">This section must also reference Rouge National Urban Park and the potential need for a Parks Canada Environmental Impact Assessment in areas along the LSE and Stouffville corridors that cross RNUP. A commitment should be added that Metrolinx will consult with Parks Canada/RNUP Field Unit to determine applicability.	<p>Noted. Updates will be made to acknowledge the presence of RNUP.</p> <p>The results of the technical studies undertaken by including but not limited to Natural Environment, Cultural Heritage, Land Use & Socio-Economic, and Noise & Vibration have not identified any adverse environmental effects that cannot be mitigated. At this time, a separate Environmental Impact Assessment is not deemed to be required. Further discussion and coordination with Parks Canada will be undertaken throughout the TPAP and during detail design and construction with respect to any impacts to RNUP lands.</p>
46	Natural Environment	<p>Page 5 (PDF pg. 29) (1.3.2.2 Ministry of Natural Resources and Forestry, 1.3.2.2.1 Species at Risk)</p> <ul style="list-style-type: none">A new section should precede this section referencing the Federal Species at Risk Act with respect to RNUP.	A new section will be added to Volume 5 and Appendix A.
47	Cultural Heritage	<p>Page 32 (PDF pg. 56) (1.5.6 Additional Affected Heritage Resources)</p> <ul style="list-style-type: none">ADD a new commitment to undertake a visual assessment in Rouge Beach/Marsh area, and in the northern reaches of RNUP on Stouffville line in terms of cultural landscape values and visibility from planned public use areas such as welcome areas and trails.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP.
48	Natural Environment	<p>Page 38 (PDF pg. 62) (1.7 Natural Environment)</p> <ul style="list-style-type: none">ADD a commitment that Parks Canada will have the opportunity to review vegetation clearing and vegetation management plans along the segments of the LSE and Stouffville corridors where they traverse Rouge national Urban Park.	Please see response to Comment #4.
49	Natural Environment	<p>Page 41 (PDF pg. 65) (Table 1-4 Key Components of Proposed Metrolinx Tree/Vegetation Compensation Protocol)</p> <ul style="list-style-type: none">ADD a new row for Parks Canada/RNUP and a protocol that will be in place to address vegetation clearing along the LSE and Stouffville corridors where they abut the park.	Noted. This information will be reviewed and included, as applicable.
50	Natural Environment	<p>Page 42 (PDF pg. 66) (1.7.6 Species at Risk)</p> <ul style="list-style-type: none">ADD Parks Canada for cases where RNUP lands are implicated (e.g., under general mitigation measures, bats, barn swallow, etc.).	Noted. This information will be reviewed and included, as applicable.
51	Natural Environment	<p>Page 44 (PDF pg. 68) (1.7.6.5 Eastern Meadowlark and Bobolink)</p> <ul style="list-style-type: none">ADD Parks Canada for situations involving adjacent RNUP lands in the Stouffville corridor.	Noted. This information will be reviewed and included, as applicable.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
52	Natural Environment	Page 44 (PDF pg. 68) (1.7.6.6 Redside Dace) <ul style="list-style-type: none">ADD Parks Canada for situations involving adjacent RNUP lands in the Stouffville corridor.	Noted. This information will be reviewed and included, as applicable.
53	Noise	Page 52 (PDF pg. 76) (1.10.1.5 Stouffville Corridor) <ul style="list-style-type: none">Parks Canada must be consulted in terms of mitigation for R56 during detailed design, as well as additional assessment to determine the need for/nature of mitigation for other residences along 9th Line whose noise exposure may exceed provincial standards.	Please see response to Comment #22.
54	Visual	Page 58 (PDF pg. 82) (Table 1-6 Areas of Special Visual/Aesthetic Consideration) <ul style="list-style-type: none">ADD the RNUP cultural landscape along the Stouffville corridor and adjust the maps in Appendix H.Include Rouge Beach/River area of RNUP and adjust the maps in Appendix H.	The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider effects to RNUP and maps will be updated to include the Rouge Beach/Marsh area
55	Commitments/Future Work	Page 64 (PDF pg. 88) (1.17 Public/Stakeholder Engagement) <ul style="list-style-type: none">ADD a new section for Parks Canada regarding effects and mitigation relating to Rouge National Urban Park (e.g., cultural landscape/visual effects, natural environment, noise mitigation).	Noted. The EPR Commitments/Future Work (Volume 5) will be revised to include Parks Canada with respect RNUP effects and mitigation as appropriate.
56	Natural Environment	Pg 108-110 (PDF pg. 89-91) (4.5.6 Section SV-6 – Mount Joy Station to Stouffville Station) <ul style="list-style-type: none">The 9th Line Restoration Project planned by Parks Canada in the vicinity of the Stouffville corridor crossing at 9th Line needs to be specifically referenced in this section. This area includes the Redside Dace habitat. If any impacts over the lifetime of this project are identified mitigation measures will need to be in place. A SARA permit may be required for this work to proceed and will be issued by Parks Canada.	See Response to Comment 35.
57	Natural Environment	Figures SV-v and SV-w (PDF pgs. 443-444) (GO Network Electrification – Terrestrial Data, Stouffville Corridor) <ul style="list-style-type: none">Identify the limits of Rouge National Urban Park on the map and in the legend.As previously stated, more information is required to properly assess potential impacts.	Noted. The Natural Environment Impact Assessment report and figures will be updated to include the Rouge National Urban Park boundaries.
58	Natural Environment	Figures LSE-o and LSE-p (PDF pgs. 463-464) (GO Network Electrification – Terrestrial Data, Stouffville Corridor) <ul style="list-style-type: none">Add the limits of Rouge National Urban Park to the map and reference the park in the legend.	Noted. The Natural Environment Impact Assessment report and figures will be updated to include the Rouge National Urban Park boundaries.
59	Natural Environment	Page 5 (PDF pg. 42) (Executive Summary Stouffville Corridor) <ul style="list-style-type: none">ADD a reference to Rouge National Urban Park as the Stouffville line crosses the north part of RNUP.	Noted. The Executive Summary will be updated to include Rouge National Urban Park.
60	Natural Environment	Page 241 (PDF pg. 278) (3.5.10 OCS & Bridges: Section SV-6 – Mount Joy GO Station to Stouffville GO Station, 3.5.10.1 Potential Effects and Mitigation Measures) <ul style="list-style-type: none">The extent of vegetation clearing through RNUP and if it involves RNUP lands is not clear from the information presented. Clarification is required.	See responses to Comments #5 and #7.
61	Natural Environment	Page 291 (PDF pg. 328) (3.6.10 OCS & Bridges: Section LSE-5 – Rouge Hill GO Station to Pickering GO Station, 3.6.10.1, Potential Effects and Mitigation Measures, 3.6.10.1.1 Terrestrial)	All vegetation clearings will occur within Metrolinx- property within the vicinity of the RNUP along the Lakeshore East Corridor, Section LSE-5. In addition, please see responses to Comments #5 and #7.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">The extent of vegetation clearing through RNUP on the Pickering side of the Rouge River and if it involves RNUP lands is not clear from the information presented. Clarification is required	
62	Cultural Heritage	Page 63 (PDF pg. 77) (Table 5-5: Cultural Heritage Resources in the Stouffville Corridor) <ul style="list-style-type: none">ADD reference to the adjacent cultural landscape of Rouge National Urban Park.	RNUP will be added as an adjacent cultural heritage landscape.
63	Cultural Heritage	Page 65 (PDF pg. 79) (Table 5-5: Cultural Heritage Resources in the Lakeshore East Corridor) <ul style="list-style-type: none">ADD reference to the adjacent cultural landscape of Rouge National Urban Park.	RNUP will be added as an adjacent cultural heritage landscape.
64	Cultural Heritage	Page 68 (PDF pg. 82) (6.2 Future Work) <ul style="list-style-type: none">More detailed assessment of the primarily visual impacts on the Rouge National Urban Park cultural landscape in the Rouge Beach/Marsh area (Lakeshore East corridor) and in northern parts of RNUP (Stouffville corridor) needs to be added as a future work commitment.	See response to Comment #36.
65	Cultural Heritage	Page N/A (PDF pg. 636) (Map of Cultural Resources) <ul style="list-style-type: none">Identify RNUP limits as part of the cultural resources along the Stouffville corridor.	RNUP will be added as an adjacent cultural heritage landscape.
66	Cultural Heritage	Page N/A (PDF pg. 640) (Map of Cultural Resources) <ul style="list-style-type: none">Identify RNUP limits as part of the cultural resources along the Lakeshore East corridor.	RNUP will be added as an adjacent cultural heritage landscape.
67	Cultural Heritage	Page 69 (PDF pg. 87) (5 Monitoring Activities and Commitments, 5.5 Stouffville Corridor) <ul style="list-style-type: none">ADD a commitment to undertake a visual assessment of the Stouffville corridor's passage through RNUP.	See response to Comment #36.
68	Cultural Heritage	Page 69 (PDF pg. 87) (5 Monitoring Activities and Commitments, 5.6 Lakeshore East Corridor) <ul style="list-style-type: none">ADD a commitment to undertake a visual assessment of the Lakeshore East corridor's passage through RNUP.	See response to Comment #36.
69	Land Use	Page 100 (PDF pg. 117) (4.5.6 Section SV-6 – Mount Joy GO Station to Stouffville GO Station, 4.5.6.1 Existing Land Use) <ul style="list-style-type: none">The presence, character, and uses of Rouge National Urban Park along this needs to be acknowledged, described, and assessed.	See response for comment 10
70	Land Use	Page 101 (PDF pg. 118) (4.5.6 Section SV-6 – Mount Joy GO Station to Stouffville GO Station, 4.5.6.2 Planned Land Use) <ul style="list-style-type: none">Reference Parks Canada's 2014 draft management plan for Rouge National Urban Park, and describe its plans for the north end of the park, including trails, welcome areas, farms, and ecological restoration, among others.	The Land Use and Socio-Economic Assessment Report (Appendix E) will be updated to include this reference and description of plans as noted.
71	Land Use	Page 121 (PDF pg. 138) (4.6.5 Section LSE-5 – Rouge Hill GO Station to Pickering GO Station, 4.6.5.2.1 Sensitive Receptors) <ul style="list-style-type: none">Rouge Beach/Marsh hosts 300,000 visitors per summer season according to Parks Canada surveys and should be considered a sensitive receptor.	See response for comment #29

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
72	Land Use	Page 141 (PDF pg. 139) (4.6.5 Section LSE-5 – Rouge Hill GO Station to Pickering GO Station, 4.6.5.2 Planned Land Use, 4.6.5.2.2 Recreational Amenities) <ul style="list-style-type: none">The proposals of Parks Canada's 2014 draft management plan for RNUP should be referenced, including the proposal for a welcome area in the Rouge Beach area.	See response for comment #10
73	Land Use	Page 131 (PDF pg. 148) (List of References) <ul style="list-style-type: none">ADD (and review) the following report: Parks Canada. (2014). Draft Management Plan, Rouge National Urban Park.	See response for comment #70
74	Land Use	Figures B-130-133 (PDF pgs. 304-307) (Facilities within 500 m from ROW, Stouffville Corridor) <ul style="list-style-type: none">Add the limits of Rouge National Urban Park to the map and reference the park in the legend.	The boundary for Rouge National Urban Park has been added to the Land Use and Socio-Economic Report (Appendix E) and the Mapping of Land Use Designations (Appendix R)
75	Land Use	Figures B-153-154 (PDF pgs. 327-328) (Facilities within 500 m from ROW, Stouffville Corridor) <ul style="list-style-type: none">Add the limits of Rouge National Urban Park to the map and reference the park in the legend.	See response for comment #74
76	Land Use	Page 51 (PDF pg. 74) (3.5.10 OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 3.5.10.1 Potential Effects and Mitigation Measures, 3.5.10.1.1 Encroachment onto Adjacent Land Uses) <ul style="list-style-type: none">The presence of RNUP and the nature of potential visual effects on cultural landscape values adjacent to the corridor and visitor experience should be added.	The EPR, Cultural Heritage Impact Assessment Report (Appendix C) and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects on cultural heritage landscape values of the adjacent RNUP.
77	Land Use	Page 52 (PDF pg. 75) (3.5.10 OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 3.5.10.1 Potential Effects and Mitigation Measures, 5.10.2 Net Effects) <ul style="list-style-type: none">ADD a statement that Metrolinx will work with Parks Canada to minimize any effects on RNUP where the Stouffville corridor crosses the park.	This item has been noted within the text for the Land Use and Socio-Economic Report (Appendix E) and in Volumes 3 and 5 of the EPR.
78	Land Use	Page 65 (PDF pg. 88) (3.6.10 Section LSE-5 – Rouge Hill GO Station to Pickering GO Station, 3.6.10.2 Net Effects) <ul style="list-style-type: none">Identify any potential effects on the Rouge Beach/Marsh area of RNUP.Add a Parks Canada to the list of municipalities (Pickering and Toronto) that Metrolinx has committed to work with to help minimize any effects on RNUP where the LSE corridor crosses the park.	As outlined in EPR Volume 1, Section 3.7.1, “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.” Therefore, potential land use effects on Rouge Beach are not identified as part of the Land Use Impact Assessment. Rouge Beach/Marsh Area will be referenced within the appropriate sections of the EPR and Land Use reports (Appendix E). Parks Canada has been added to the mitigation statements within the Land Use and Socio-Economic Report (Appendix E) for SV-6 and LSE-5.
79	Land Use	Page 73 (PDF pg. 96) (4 Socio-Economic Impact Assessment) <ul style="list-style-type: none">ADD a new section describing Rouge National Urban Park, a new federally-protected entity. This section should described the purpose of the park, where the GO corridors cross the park (Stouffville corridor [as of 2015] and along the Lakeshore corridor [expected 2017/18]. Note the 300,000 visitors to the Rouge Beach/Marsh area in the summer months as estimated in Parks Canada surveys in 2013 and 2014. Also cite the 2014 draft management plan for the park, including plans for welcome areas, trails, ecological restoration, etc.	A discussion on Rouge National Urban Park will be added to the Land Use and Socio-Economic Report (Appendix E) in Segments SV-6 and LSE-5.
80	Land Use	Page 124 (PDF pg. 147) (4.7.10 OCS & Bridges: Section SV-6 – Mount Joy Station to Stouffville Station, 4.7.10.1 Potential Effects and Mitigation Measures) <ul style="list-style-type: none">This section needs to identify where the Stouffville corridor crosses RNUP, potential impacts on the park, and mitigation.	See response for comment #79

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
81	Land Use	Page 135 (PDF pg. 158) (4.8.9 OCS & Bridges: Section LSE-5 – Rouge Hill Station to Pickering Station, 4.8.9.1 Potential Effects and Mitigation Measures) <ul style="list-style-type: none">This section needs to identify where the LSE corridor crosses RNUP, impacts on the park (beach/marsh, cultural landscape values, visitor experience, and mitigation).	See response for comment #78 and 79
82	Land Use	Figures SV-30 - SV-34 (PDF pgs. 364-368) (Land Use and OCS/Vegetation Removal Zone Stouffville Corridor) <ul style="list-style-type: none">The adjacent cultural landscape of RNUP should be identified as a sensitive receptor.The "Natural Area" designation in Rouge National Urban Park north of Elgin Mills is not correct in terms of Rouge National Urban Park. Use the park name as the legend title instead of "Natural Area" and show the park limits on the map.	See Response for Comment #29 Mapping for SV-6 includes the designations described in Table 3-2 of the Land Use and Socio-Economic Report (Appendix E), and were taken from the Official Plans of each municipality. The RNUP boundary has been added to this map layer.
83	Land Use	Figures LSE-22 – LSE-23 (PDF pgs. 395-396) (Land Use and OCS/Vegetation Removal Zone, Lakeshore East Corridor) <ul style="list-style-type: none">Identify cultural landscape values and high-visitation area (Rouge Beach/marsh, with 300K visits per summer estimated), as a sensitive receptor.ADD limits of Rouge National Urban Park to the map and legend.	See Response for Comment #29
84	Noise	Page 20 (PDF pg. 33) (3.7 Investigation of Mitigation - Operational Noise) <ul style="list-style-type: none">As we stated in our comment on pg. 812 (PDF pg. 922) of EPR Volume 3, we disagree with the statement “For the purposes of this study, it was assumed that noise mitigation would be limited to locations within the GO Transit right-of-way.” This should not be a blanket assumption; we recommend on-site mitigation for R56 which is identified as exposed to night-time levels above provincial standards, and possibly other residences in RNUP as noted elsewhere.	Please see response to Comment #38.
85	Noise	Page ?? (PDF pg. 50) (Table 1: Noise and Vibration Receptors) <ul style="list-style-type: none">R55 and R56 receptors are leased residences in Rouge National Urban Park administered by Parks Canada. We would like to see evidence of analysis of other nearby receptors (i.e., leased properties) in RNUP.	Please see response to Comment #22.
86	Noise	Page ?? (PDF pg. 56) (Table 3a: Adjusted Noise Impacts of the Diesel RER in comparison to the Existing service) <ul style="list-style-type: none">For the one affected residence in RNUP (R56) we recommend on-site measures such as sound-proofing the house; other leased properties in the park should be considered if analysis indicates the need.	Please see response to Comments #22 and #38.
87	Noise	Page ?? (PDF pg. 59) (Table 3b: Adjusted Noise Impacts of the Electric RER in comparison to the Existing service) <ul style="list-style-type: none">For the one affected residence in RNUP (R56) we recommend on-site measures such as sound-proofing the house; other leased properties in the park should be considered if analysis indicates the need.	Please see responses to Comments #22 and 38.
88	Visual	Page 69 (PDF pg. 84) (4.5.5 Section SV-5 – Markham GO Station to Mount Joy GO Station)	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">Acknowledge the presence of Rouge National Urban Park and describe the character of its cultural landscape values.	
89	Visual	Page 82 (PDF pg. 98) (4.6.5 Section LSE-5 – Rouge Hill GO Station to Pickering GO Station) <ul style="list-style-type: none">ADD (in italics) “may affect the view from the pedestrian bridge out across the lake <i>and from Rouge Beach, and from the boardwalk/overlook at Rouge Marsh.</i>”	Please see response to Comment #2 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
90	Visual	Figures E-21 - E-23 (PDF pgs. 243-245) (Stouffville (SV) VIA Existing Conditions) <ul style="list-style-type: none">The viewshed limits should be more precisely defined in RNUP by way of a more thorough visual assessment.The park boundaries should also be shown on the map and identified in the legend.	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
91	Visual	Figures F-15 – F-16 (PDF pgs. 265-266) (Lakeshore East (LSE) VIA Existing Conditions) <ul style="list-style-type: none">Given the presence of RNUP and the high public use of this area, viewsheds need to be more accurately defined by way of a more thorough visual assessment.The park boundaries should also be shown on the map and identified in the legend.	Please see response to Comment #2 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
92	Visual	Page 120 (PDF pg. 141) (3.5.11 OCS & Bridges: Section SV-6 – Mount Joy GO Station to Stouffville GO Station, 3.5.11.1 Potential Visual Effects and Mitigation Measures, OCS/Rail Corridors) <ul style="list-style-type: none">Rouge National Urban Park needs to be acknowledged and the potential for visual effects from electrification infrastructure identified in terms of the character of the park, its cultural landscape value, and visitor experience.	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
93	Visual	Page 143 (PDF pg. 164) (3.6.10 OCS & Bridges: Section LSE-5 – Rouge Hill GO Station to Pickering GO Station, 3.6.10.1 Potential Visual Effects and Mitigation Measures, OCS/Rail Corridor) <ul style="list-style-type: none">The presence of Rouge National Urban Park needs to be acknowledged and the potential for visual effects from electrification infrastructure identified in terms of the character of the park, its adjacent identified cultural landscapes, and visitor experience. In the latter case, the 300,000 summer season visitors to the Rouge Beach/Marsh area needs to be referenced. On this basis, we believe the visual impact should be classified as “major.”	Please see response to Comment #2 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
94	Visual	Figure E-20 (PDF pg. 330) (Stouffville (SV) VIA Existing Conditions) <ul style="list-style-type: none">Rouge National Urban Park is to the east of 9th Line in this area. There should be more analysis of the limits of the viewshed as it extends into the park. Parks Canada does not support the "No Visual Impact" rating identified in the report given the lack of assessment of the visual impacts on park values such as its cultural landscape value.The park limits should be shown on the map and identified in the legend.	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
95	Visual	Figures E-21 - E-23 (PDF pgs. 243-245) (Stouffville (SV) VIA Existing Conditions) <ul style="list-style-type: none">Rouge National Urban Park is not identified. There could be visual effects on the park's cultural landscape and the open agricultural landscapes. Visitor experiences on trails could also be affected. Specific visual assessment in this area should be undertaken with input from Parks Canada, including a more precise delineation of the extent of the viewshed.Parks Canada therefore does not support the "No Visual Impact" rating identified in the report given the lack of assessment of the visual impacts on park values such as cultural landscapes.	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
96	Visual	Figures F-15 – F-16 (PDF pgs. 353-354) (Lakeshore East (LSE) VIA Existing Conditions) <ul style="list-style-type: none">The extent of the viewshed in RNUP and related potential visual impact on the Rouge Beach/Marsh areas need to be more clearly articulated.	Please see response to Comment #2 Under the <i>Parks Canada – Rouge National Park</i> section. The EPR and Visual Impact Assessment Report (Appendix H) will be updated to consider visual effects to RNUP.
97	Mapping	Figures SV-57 – SV-63 (PDF pgs. 59-65) (Stouffville Corridor—DRAFT Conceptual Electrification Plans) <ul style="list-style-type: none">North of Elgin Mills the Stouffville Corridor crosses Rouge National Urban Park. It is difficult to tell if the vegetation clearing area extends beyond the ROW limit into the park. Clarification is required, as any need to do so will trigger the need for Parks Canada permits and associated EA requirements.The park limits should be shown on the map and identified in the legend.	<p>The mapping will be revised to identify RNUP limits.</p> <p>Calculations for tree/vegetation removals within and outside the Metrolinx property have been identified in the Natural Environment Impact Assessment Report (Appendix A2) and EPR Volume 3. Further updates will be made to clarify any removals on Parks Canada lands. Shapefiles for the OCS Impact/Vegetation Removal Zone within the RNUP can be provided.</p> <p>Please see response to item #7 regarding potential vegetation clearing requirements outside of MX owned property within RNUP.</p>
98	Mapping	Figure LSE-39 (PDF pg. 40) (Lakeshore East Corridor—DRAFT Conceptual Electrification Plans) <ul style="list-style-type: none">A portion of this segment at the east end of the Rouge River Bridge traverses RNUP. It is difficult to tell where the right-of-way limit is in relation to the vegetation clearing area. There will be Parks Canada permit requirements if clearing extends beyond the right-of-way.	<p>Further consultation and coordination for any proposed tree/vegetation removals beyond Metrolinx property will be undertaken as the project’s design progresses.</p> <p>Please see response to item #7 regarding potential vegetation clearing requirements outside of MX owned property within RNUP.</p>
99	Mapping	Figure LSE-38 (PDF pg. 40) (Lakeshore East Corridor—DRAFT Conceptual Electrification Plans) <ul style="list-style-type: none">This segment crosses Rouge National Urban Park. The south side will feature a retaining wall as per the LSE Expansion EA, but the extent of clearing on the north side in relation to a planned lower retaining wall (and where the wall ends) is unclear from this diagramme. There needs to be an overall landscaping plan for the north side in particular that coordinates/integrates what is proposed in the LSE expansion EA and this EA.	<p>The extent of vegetation removal will be confirmed during detail design. For the purposes of the TPAP, the project team has taken a conservative approach. Landscaping plans will be prepared as required during detailed design by the Contractor.</p> <p>Coordination with LSE Expansion Project will be undertaken as required.</p>
100	Mapping	Figure LSE-39 (PDF pg. 40) (Lakeshore East Corridor—DRAFT Conceptual Electrification Plans) <ul style="list-style-type: none">A portion of this segment at the east end of the Rouge River Bridge traverses RNUP. It is difficult to tell where the right-of-way limit is in relation to the vegetation clearing area. There will be Parks Canada permit requirements if clearing extends beyond the right-of-way.	See response to Comments #5 and #7.
101	Cultural Heritage	APPENDIX Q Mapping of Potential Affected Cultural Heritage Resources <ul style="list-style-type: none">No map covers Rouge National Urban Park along the approximately 3 kilometres of Stouffville corridor that traverses the park, with no identification of potential cultural landscape and other cultural heritage values that might be affected. This oversight should be corrected.	Please see response to Comment #1 Under the <i>Parks Canada – Rouge National Park</i> section. RNUP will be added as an adjacent protected heritage property.
102	Noise	APPENDIX S5 Stouffville Mapping of Noise/Vibration Receptors and Recommended Locations for Noise/Vibration Mitigation Figures SV-57 – SV-63 (PDF pgs. 57-64) (Stouffville Corridor – DRAFT Conceptual Electrification Plans & Potential Noise/Vibration Mitigation Locations) <ul style="list-style-type: none">The noise mitigation maps should be revised as required once a more comprehensive assessment of noise impacts for leased properties in RNUP is undertaken as recommended elsewhere in Parks Canada’s submission.	<p>As discussed in response to Comments #84 and #85, all residences in question have been assessed within our study. For presentation purposes, only R55 and R56 are presented in detail within our report, as these receptors are worst case representatives of the other residences located north and south adjacent to the rail line. No further assessment is required at this time.</p> <p>During detailed design, there will be further consideration of the administrative, operational, and economic feasibility as per the 1995 MOEE/GO Transit Noise Protocol.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
103	Visual	<p>Figure SV-61 (PDF pg. 61) (Stouffville Corridor – DRAFT Conceptual Electrification Plans & Potential Noise/Vibration Mitigation Locations)</p> <ul style="list-style-type: none">The noise mitigation approach suggests "non-technically feasible" for R56, a leased residence in Rouge National Urban Park that has been flagged as exposed to a more than 5 dB increase in night-time noise. As noise barriers would not be acceptable to Parks Canada either because of their visual effects, we recommend on-site mitigation such as additional insulation be considered to achieve the noise reduction target.	<p>Please note that the Final EPR will only include technically feasible noise walls as only technically feasible noise walls will be considered for implementation during detailed design. The non-technically feasible noise walls will not be included in the Final EPR.</p> <p>Metrolinx will consult with Parks Canada at the detailed design stage regarding mitigation for R56 and surrounding receptors.</p>
104	General	<p>APPENDIX U List of Technical Reports and Studies Reviewed</p> <p>No material referencing Rouge National Urban Park is listed, so we can only assume none was reviewed. Based on our comments made throughout the EPR and its appendices, we suggest the review and listing (in Appendix U) of the following document:</p> <ul style="list-style-type: none">2014. Draft Management Plan, Rouge National Urban Park, Parks Canada.	<p>Noted. The RNUP Draft Management Plan will be reviewed as previously noted in response to item #1. Relevant sections of the EPR will be updated including Appendix U.</p>
105	Ecological restorations associated with the 9th Line Widening and the west side of the 9th Line	<p>As per our phone conversation, appended below is information on the two projects cited in your e-mail. Feel free to call should you have further questions.</p> <p>This project in conjunction with the 9th Line widening by York Region was completed in 2015.</p> <p>This project is planned along the west side of 9th Line and alongside the Uxbridge Subdivison; the attachment features an overall concept plan. We wish to hold further discussions with Metrolinx to enable its implementation.</p>	<p>Noted. The information provided will be reviewed and incorporated into the Natural Environmental Impact Assessment Report, as appropriate.</p> <p>Metrolinx agrees that further discussions with Parks Canada would be beneficial, and will reach out to Parks Canada to schedule a meeting.</p>

Table 1-18: Transport Canada Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TRANSPORT CANADA			
1	Requirement for Transport Canada Review	We are requesting project proponents to self-assess if their project will interact with a federal property and require approval and/or authorization under any Acts administered by Transport Canada	<p>With respect to potential interactions with federal property, please refer to Response #2 below.</p> <p>With respect to identification of any approvals and/or authorizations under any Acts administered by Transport Canada that may be applicable to the GO Rail Network Electrification undertaking:</p> <p>Transport Canada is responsible for administering the Navigation Protection Act (formerly the Navigable Waters Protection Act). The Navigation Protection Act applies to works which are constructed or placed in, on, over, under, through, or across scheduled navigable waterways.</p> <p>There are two bridges that span scheduled navigable waterways which will be modified to accommodate rail corridor electrification. These bridges span: the Humber River (near The Queensway and South Kingsway, Toronto); the Holland River (near Bridge St. and Toll Road in Bradford-West Gwillimbury) The types of modifications required to these structures will be finalized during detailed design, however it is noted that the modifications (e.g., attachment of OCS portal structures/wires) are not expected to affect the navigability of the scheduled waterways. The Navigation Protection Act provisions will be reviewed during detailed design, and any contractor engaged by Metrolinx will be required to adhere to and comply with the Navigation Protection Act, including any approvals required under that Act prior to construction.</p> <p>Notwithstanding this, Navigation Protection Act provisions will be reviewed during detailed design, and the Contractor shall abide by the requirements of applicable legislation including the NPA and will submit/obtain all required permits/approvals under the NPA prior to construction.</p> <p>Transport Canada is responsible for administering the Transportation of Dangerous Goods Act (TDGA). The TDGA regulates the transportation of dangerous goods by air, marine, rail and road. At this time none of the activities required as part of the Electrification Project are anticipated to require authorization under this Act. Notwithstanding this, TDGA provisions will be reviewed during detailed design, and the Contractor shall abide by the requirements of applicable legislation including the TDGA.</p> <p>Transport Canada is responsible for administering the Aeronautics Act which regulates aerodromes, related buildings and services used for aviation. In addition it regulates and has an interest in structures and activities which may have the potential to cause interference in aviation activities. As part of ensuring that the electrification project design, construction and operation do not adversely affect airport operations, Metrolinx has undertaken consultation with NavCanada (NavCan) and the Greater Toronto Airports Authority (GTAA) as part of the TPAP. In addition, NavCan and GTAA were provided with a copy of the Draft GO Rail Network Electrification EPR and responses to their comments were provided by Metrolinx. Consultation with NavCan and GTAA will continue throughout the TPAP and Detailed Design phase to ensure that any required agreements, approvals or authorizations are obtained prior to project implementation.</p> <p>Transport Canada is responsible for administering the Railway Safety Act - please see response #6 below.</p>
2	Proximity to Federal Properties	The Project proponent should review the Directory of Federal Real Property, available at http://www.tbs-sct.gc.ca/dfrp-rbif/ , to verify if the project will potentially interact with any federal property and/or waterway.	<p>The Directory of Federal Real Property has been reviewed. It is also noted that the Canadian Environmental Assessment Agency, Greater Toronto Airports Authority, and Parks Canada were also provided with copies of the Draft EPR for review and Metrolinx has issued responses to their comments.</p> <p>With respect to waterways, see response to Comment #1.</p> <p>With respect to project works located on or adjacent to federal lands, there are no traction power facilities/tap locations that are currently proposed on federal land. There are some areas along the existing GO rail ROW's where the Electrification impact zone interacts with federal lands. The impact zone is defined as a maximum 7 metre Vegetation Clearing Zone measured from the centerline of the outermost tracks to be electrified and proposed feeder routes. This zone also captures the area within which proposed electrification OCS (Overhead Contact System) and bridge protection infrastructure may be added and in which proposed bridge modifications may occur. These locations are as follows:</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																					
			<p><u>Lakeshore East Corridor – Proposed Pickering Airport (see Attachment A)</u></p> <p>There is a portion of the existing Lakeshore East Rail Corridor that traverses through lands designated for the proposed Pickering Airport (which are owned by Greater Toronto Airports Authority) (GTAA)). It is anticipated that the OCS infrastructure will be located within Metrolinx’s existing rail ROW, however vegetation clearing may be required outside of Metrolinx’s ROW for safety reasons as outlined in Section 3.6.4 of EPR Volume 1. It should be noted that GTAA was provided a copy of the Draft EPR for comment and responses were provided to GTAA’s comments by Metrolinx. Consultation with GTAA will continue throughout the TPAP and detailed design as appropriate and any agreements or permits required will be obtained prior to project implementation.</p> <p><u>Barrie Corridor – Downsview Park (see Attachment B)</u></p> <p>There is a portion of the existing Barrie Rail Corridor that traverses through Downsview Park (federally owned and managed - by Canada Lands Company). It is anticipated that the OCS infrastructure and vegetation clearing will be located within Metrolinx’s existing rail ROW, therefore no effects to the Park are anticipated. Notwithstanding, this as part of detailed design, this will be re-confirmed and consultation with CLC will be undertaken as appropriate.</p> <p><u>Lakeshore East Corridor and Stouffville Corridor – Rouge National Urban Park</u></p> <p>There are portions of the existing Lakeshore East and Stouffville Rail Corridors that traverse through the Rouge National Urban Park (RNUP) (overseen by Parks Canada). It is anticipated that the OCS infrastructure will be located within Metrolinx’s existing rail ROW, however vegetation clearing may be required outside of Metrolinx’s ROW for safety reasons as outlined in Section 3.6.4 of EPR Volume 1. It should be noted that Parks Canada was provided a copy of the Draft EPR for comment and responses were provided to Park Canada’s comments by Metrolinx. Consultation with Parks Canada will continue throughout the TPAP as appropriate.</p> <p>In addition, an estimate of the extent of the vegetation removal zone that extends beyond Metrolinx’s rail ROW and on RNUP lands along the Lakeshore East and Stouffville rail corridors is provided as follows (this information was also provided directly to Parks Canada as part of responding to their comments on the Draft EPR):</p> <p><i>Lakeshore East Corridor – see Attachment C</i></p> <p>Extent of 7m vegetation removal zone along LSE corridor within RNUP boundaries that falls outside the MX ROW = approximately 51.9 m². These lands are not federally owned, rather they are owned by the Toronto Region Conservation Authority (TRCA)¹³.</p> <p><i>Stouffville Corridor – see Attachment D</i></p> <p>Extent of 7m vegetation removal zone along STV corridor within RNUP boundaries and that fall outside the MX ROW = approximately 311.63m², ownership¹⁴ of these lands are as follows:</p> <table><tr><th>PIN</th><th>Land Owner¹⁵</th><th>Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries</th></tr><tr><td>037310487</td><td>Federally owned</td><td>7.56 m2</td></tr><tr><td>030620437</td><td>Federally owned</td><td>0.004 m2</td></tr><tr><td>030630029</td><td>Federally owned</td><td>68.73 m2</td></tr><tr><td>030630028</td><td>York Region</td><td>139.86 m2</td></tr><tr><td>030630001</td><td>City of Markham</td><td>95.44 m2</td></tr><tr><td colspan="2">TOTAL</td><td>311.63 m2</td></tr></table>	PIN	Land Owner ¹⁵	Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries	037310487	Federally owned	7.56 m2	030620437	Federally owned	0.004 m2	030630029	Federally owned	68.73 m2	030630028	York Region	139.86 m2	030630001	City of Markham	95.44 m2	TOTAL		311.63 m2
PIN	Land Owner ¹⁵	Area of Veg Clearing Zone (m2) outside ROW within RNUP Boundaries																						
037310487	Federally owned	7.56 m2																						
030620437	Federally owned	0.004 m2																						
030630029	Federally owned	68.73 m2																						
030630028	York Region	139.86 m2																						
030630001	City of Markham	95.44 m2																						
TOTAL		311.63 m2																						

¹³ Property ownership based on available data from Teranet.
¹⁴ Property ownership based on available data from Teranet.
¹⁵ Property ownership based on available data from Teranet.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Metrolinx will be undertaking further discussions and consultation with Parks Canada as part of the Electrification TPAP regarding the specific permit/approval requirements that may pertain to vegetation removals on RNUP lands. Based on these discussions, any Parks Canada permit/approval requirements will be reflected in the revised EPR and will subsequently obtained prior to commencement of construction.</p> <p>Union Station</p> <p>Parks Canada is Union Station’s Approval Authority under the terms and conditions of the heritage Easement Agreement (signed in 2000) when the Station was sold to the City of Toronto and GO Transit (who is now responsible for TTR lands in USRC), under section 37 of the <i>Ontario Heritage Act</i> (Section 37 of the OHA addresses Easements for heritage properties). The Union Station trainshed is included under this Agreement. Metrolinx is consulting with Parks Canada as part of the TPAP to ensure that federal approval requirements are identified for any electrification modifications to Union Station. Metrolinx acknowledges that, as Union Station’s Approval Authority, Parks Canada must approve any proposed electrification modifications for the Union Station trainshed. It is understood Metrolinx or its Contractor will seek any required approvals from Parks Canada prior to project implementation.</p>
3	Applicability of Acts administered by Transport Canada	The project proponent should also review the list of Acts that Transport Canada administers and assists in administering that may apply to the project, available at: https://www.tc.gc.ca/eng/acts-regulations/acts.htm .	The list of Acts that Transport Canada administers has been reviewed – please refer to Response #1 above.
4	Ongoing Engagement	If the aforementioned does not apply, the Environmental Assessment program should not be included in any further correspondence.	Noted, the project contact list will be updated accordingly.
5	Ongoing Engagement	If there is a role under the program, correspondence should be forwarded <i>electronically</i> to: EnviroOnt@tc.gc.ca with a brief description of Transport Canada’s expected role.	Noted.
6	Railway Safety Act	Due to the nature of your project, please examine the Railway Safety Act in detail to determine whether the project will require review by Transport Canada	<p>The majority of the work will be taking place on Metrolinx owned rail corridors and Metrolinx owned rights of way. Consequently, Transport Canada does not have direct jurisdiction over these works.</p> <p>There is a small portion of the work which is anticipated to take place on lands or property owned by federally-regulated railway companies. These works are as follows:</p> <p>CN: Three of the proposed TPF locations are on/adjacent to CN’s rail corridors:</p> <ul style="list-style-type: none">• Bramalea PS, located in Brampton, ON, on the CN Halton Sub,• Durham Switching Station, located in Pickering, ON, on the CN Kingston Sub,• ERMF Traction Power Facility, located in Whitby, ON, on the GO Sub/CN Kingston Sub. <p>On Lakeshore East, Metrolinx acknowledges CN’s plans for a future 3rd track on the CN Kingston Sub. OCS poles or portals would not be placed between the GO and CN corridors in order to preserve this space for future CN track expansion.</p> <p>Bridges</p> <p>Electrified GO corridors will cross CN at three locations:</p> <ul style="list-style-type: none">• CN York Sub over GO (GO Uxbridge Sub. Mi. 51.10) will require flash plates.• CN York Sub over GO (GO Kingston Sub Mi. 35)• CN York Sub over GO (GO Newmarket Sub Mi.12.90) <p>On the Lakeshore East Corridor, Metrolinx acknowledges CN’s plans for a future 3rd track on the CN Kingston Sub. OCS poles or portals would not be placed between the GO and CN corridors in order to preserve this space for future CN track expansion.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>The electrified GO Stouffville corridor will cross CN at the CN York Sub (GO Uxbridge Sub. Mi. 51.10), this structure will require flash plates to facilitate electrification.</p> <p>A set of gantries is required for the Bramalea Paralleling Station (located in Brampton, ON) along the Kitchener rail corridor on the CN Halton Sub.</p> <p>CP: no property impacted</p> <ul style="list-style-type: none">Stouffville corridor under CP Belleville Sub. No impacts from electrificationBarrie corridor over CP North Toronto Sub. (future Davenport G/S). No impacts <p>Both Canadian National Railway (CN) and Canadian Pacific Railway (CP) maintain locations where Metrolinx rails cross or run parallel, as well as being owner and operator of lines where Metrolinx will be electrifying portions of the existing territory. Items to address may include: CTC Signaling Systems; signal cables and fiber optic cables; crossing control equipment; bungalows and junction boxes; hot box detectors; and, locations where OCS poles/portals cross existing shared rail territory.</p> <p>Where works are taking place on lands or property owned by a federally-regulated railway, it is likely that the railway company will require Metrolinx to be a “proponent” for the purposes of the Railway Safety Act. In those circumstances, Metrolinx will comply with the obligations placed on a “proponent” under the Railway Safety Act and will ensure any necessary approvals are obtained.</p> <p>With respect to any determination regarding significant adverse environmental effects, we note that this project is subject to an environmental assessment pursuant to the Transit Projects and Metrolinx Undertakings Regulation, O. Reg. 231/08 made under Ontario’s Environmental Assessment Act, R.S.O. 1990, c. E.18 and will not proceed until approval to do so has been obtained from Ontario’s Minister of the Environment and Climate Change.</p>

1.2.7.3 Provincial Review Agency Comments Received on Draft EPR

Table 1-19 to Table 1-24 below contain each comment (verbatim) submitted by each provincial review agency as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate

Table 1-19: Ministry of Economic Development and Growth Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MINISTRY OF ECONOMIC DEVELOPMENT AND GROWTH			
1	Project Purpose	<p>We do not possess within the Ministries the technical expertise required to formulate detailed comments on the Report. We do note the benefits of electrification listed on Page 5, Volume 1, which include the fact that “electric trains can accelerate and decelerate faster and stay at top speed for longer, saving time for customers.”</p> <p>By reducing commuting times and making rail transit a more attractive option for commuters, the project could potentially contribute to a positive business climate in the Greater Golden Horseshoe by:</p> <ul style="list-style-type: none">• Facilitating efficient goods movement by alleviating highway congestion;• Enhancing productivity through faster travel to and from work; and• Enhancing the attractiveness of the region to business investors from the standpoint of quality of life as well as productivity. <p>For these reasons, MEDG/MRIS looks forward to the timely approval and completion of the project.</p>	Thank you for your comments and support for the Network Electrification project.

Table 1-20: Ministry of Natural Resources and Forestry Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MINISTRY OF NATURAL RESOURCES AND FORESTRY			
1	Natural Science – Approvals & Regulations	<p>Based on our review, the undertaking should consider the following:</p> <ul style="list-style-type: none">• Potential impact to Species at Risk (Endangered Species Act, 2007; ESA herein) and their habitat;• Potential impacts to natural heritage features, such as<ul style="list-style-type: none">○ Provincially Significant Wetlands;○ Areas of Natural and Scientific Interest;○ Terrestrial natural heritage features (e.g., woodlands, significant wildlife habitat);○ Works adjacent to water courses, potential impacts on aquatic resources; and○ Work permits and/or timing windows, as may be required.• Conformity to Provincial Plans and associated policies, such as<ul style="list-style-type: none">○ The Greenbelt;○ The Oak Ridges Moraine; and○ The Lake Simcoe Protection Plan.	<p>A Natural Environment Impact Assessment was conducted as part of the GO Rail Network Electrification TPAP (Appendix A2). Potential impacts to Species at Risk (Endangered Species Act, 2007) and their habitat were assessed as part of the Natural Environment Impact Assessment. In addition the Natural Environment Impact Assessment assessed the potential project impacts to natural heritage features including:</p> <ul style="list-style-type: none">• Provincially Significant Wetlands;• Areas of Natural and Scientific Interest;• Terrestrial natural heritage features;• Works adjacent to water courses, potential impacts on aquatic resources; and• Work permits and/or timing windows. <p>Project impacts, including vegetation clearing requirements, within lands under the Greenbelt Plan (2005) and the Oak Ridges Moraine Conservation Plan (2002) were assessed within the Natural Environment Impact Assessment Report. Conformity to the Greenbelt Plan and Oak Ridges Moraine Conservation Plan was also assessed as part of the Land Use and Socio-economic Impact Assessment (Appendix E2).</p> <p>A Natural Environment Impact Assessment was completed as part of the GO Rail Network Electrification TPAP (Appendix A2), which is summarized in Volume 3 of the Draft EPR.</p> <p>Impacts to Species at Risk (SAR) are addressed within "Species at Risk" sections of each corridor segment. Impacts to PSW, ANSI, Significant Features are addressed in the "Designated Areas" sections. Potential impacts to watercourses are identified the "Aquatic" sections. Permits/approvals are identified in Section 4.1 and timing windows are identified throughout the report in relevant sections and summarized in Table 5-1. Impacts to Greenbelt and ORM plan areas are identified in "Designated Areas" sections. Metrolinx will add further details to Section 2.3 to better clarify how impacts were assessed. Lake Simcoe Protection Plan areas will be added to the report. Discussion on conformance to relevant policies will be added to Section 2, Methodology.</p>
2	Natural Science- terrestrial and aquatic resources	<p>Within the context of this TPAP, it is important to address the potential impacts of the project on terrestrial and aquatic resources. MNRF will provide more detailed comments on the documentation of potential impacts during the formal circulation and detailed design phases.</p>	<p>Potential impacts (and mitigation measures) to terrestrial and aquatic resources have been discussed in Section 3.0 of the Natural Environment Impact Assessment Report. Metrolinx provided the Draft EPR and Natural Environment Assessment Report (Appendix A) to MNRF in advance of the formal TPAP to solicit detailed comments and address any concerns prior to the formal TPAP period.</p> <p>Additional consultation with MNRF will also be undertaken during detailed design as noted in the EPR</p>
3	EPR Circulation	<p>Please provide Aurora and Midhurst District Offices with a copy of the EPR document once it has been completed.</p>	<p>Aurora and Midhurst District Offices will each receive a copy of the Final EPR upon issuance of the TPAP Notice of Completion – following this, there will be a 30 day public review period.</p>
4	Natural Science – Species at Risk	<p>Pursuant to the ESA, species listed as endangered or threatened are automatically protected from harm or harassment. The habitats of these species are protected from damage or destruction. If there is potential to harm or harass species at risk (SAR) or their habitat, an authorization would be required from MNRF. Such an authorization would require that conditions established by MNRF are followed by any proponent and their agents.</p>	<p>Acknowledged. SAR that have been identified as potentially being impacted by the project have been identified in relevant sections of the report. Where further studies and /or consultation with MNRF are required to assess the need for permits' approvals under the ESA, these commitments have been acknowledged in Section 4.1 of the Natural Environment Impact Assessment Report (Appendix A2) and Section 1.3.2.2 of Vol 5 of the EPR. The EPR is also being updated to include/assess as</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			appropriate, species lists in the MNRF letters provided to Metrolinx dated March 24, 2017 (Aurora District) and March 28, 2017 (Midhurst District).
5	Natural Science – Species at Risk	Based on MNRF’s records, there are confirmed SAR in the study area. Further, a number of SAR have the potential to occur in the study area and will require further assessment. Based on our review of available information, the SAR list provided appears to be incomplete and requires an update. By way of example, there are species that have been recently identified as “threatened” and “endangered” pursuant to the ESA and are not listed in the supporting documentation. There are other species that no longer require habitat protection under the ESA (i.e., are no longer identified as “threatened” or “endangered”) that are included in the inventory work as being present in the study area. An updated SAR screening by MNRF will be necessary. To assist, MNRF will be providing additional information by way of separate letter on this topic.	Metrolinx has received the updated letters dated March 24, 2017 (Aurora District) and March 28, 2017 (Midhurst District). Species lists in the letters will be reviewed/assessed as appropriate, and the EPR and Appendix A will be updated as required.
6	Natural Science – Species at Risk	Where impacts to SAR (or their habitat) are identified, mitigative options for dealing with potential conflicts for these species should be evaluated and detailed. Site restoration should include a native species re-vegetation plan and monitoring of mitigation may also be necessary. Additional timing restrictions may also be required.	An initial assessment of potential impacts to SAR and their habitat was undertaken as part of the TPAP and have been documented within the Natural Environment Impact Assessment Report (Appendix A2). Preliminary mitigation measures and a commitment to future work with respect to SAR that have been identified to have potential impacts are also provided in Appendix A2. Where potential impacts to SAR are confirmed at detail design, options for reducing or mitigating the impacts to these species will be evaluated, including the implementation of additional timing restrictions. Additional consultation with MNRF will also be undertaken. Text will be added to Section 4.0 of Appendix A2 as well as EPR Volume 5 to reflect this. Site restoration opportunities along the corridor are limited due to the requirement for vegetation clearances, which necessitated the vegetation clearing. Site stabilization in these areas will involve possible plantings with species that will not interfere with the OCS and native seed mixes.
7	Detailed Design and Construction	During the detailed design and construction phase, ESA permitting/authorization requirements will need to be discussed. Potential impacts from any construction activities, including creation of access roads, construction pads, erosion and sediment controls, power substations, associated tree clearing, and any other disturbance will be considered. It is recommended that MNRF be contacted as early in the process as possible to ensure there is sufficient time to obtain any required ESA authorizations in advance of construction.	Noted. Commitments for early consultation with MNRF during the detail design phase will be identified/added to EPR Volume 5 and Section 4.0 of the Natural Environment report.
8	Baseline Inventory update	Natural heritage information including information on wetlands, Areas of Natural and Scientific Interest (ANSIs), woodlands, etc. can be obtained through Land Information Ontario (LIO) at https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home and https://www.ontario.ca/page/make-natural-heritage-area-map . Please ensure that baseline inventory has the most up-to-date information available.	LIO data is used and updated as new information becomes available. We will ensure that the most up to date data is referenced when updates are made to the Natural Environment Impact Assessment Report (Appendix A2) to address agency comments.
9	Natural Science – Natural Heritage Features, Wetland Evaluations	MNRF interest will be to ensure that impacts to natural heritage features are minimized for all aspects of this project, including during the construction phase. It should be noted that wetland evaluations within the study area remain on-going and MNRF may have more information for newly evaluated wetlands that may not yet be posted on LIO.	Preliminary mitigation measures have been identified to minimize impacts to natural heritage features. Further refinement of mitigation measures will be undertaken during detail design, including mitigation of impacts related to construction once further details are known. Updated wetland evaluations will be incorporated during subsequent phases as information becomes available on LIO. Information on natural heritage delineations will also be included during the detail design phase, where required.
10	Natural Science – In-water works	MNRF understands that in-water works are not currently being considered for this project. MNRF may, however, prescribe appropriate timing guidelines for activities that may directly or indirectly affect aquatic resources. Any sediment and erosion control measures for any habitat regulated pursuant to the ESA will be reviewed and/or approved by MNRF.	As no in-water works are currently proposed, no specific timing windows have been identified. However, mitigation in Section 3.8 of the Natural Environment Impact Assessment Report (Appendix A2) acknowledges that should in-water works be determined during the detail design phase, the contractor will be required to abide by timing windows for in-water work identified by MNRF.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Additional commitments for review and approval of sediment and erosion control measures for ESA regulated habitat will be included in the report.
11	Bridges - Approvals	Please be advised, where bridges are adjacent to or cross water courses, the Lakes and Rivers Improvement Act and/or the Public Lands Act may apply. MNRF should be contacted during subsequent phases of this development to determine any additional permitting requirements.	Noted. Commitments for further consultation with MNRF and potential permitting requirements under the Lakes and Rivers Improvement Act and/or the Public Lands Act will be added to EPR Volume 5, Section 1.3.2.2.
12	Conservation and Protection Plans – Infrastructure Policies	This proposal will traverse portions of the Greenbelt Plan, Oak Ridges Moraine Conservation Plan and Lake Simcoe Protection Plan. All plans have policies to ensure that development of infrastructure minimizes impacts to natural heritage features and systems during planning, construction and during maintenance. Accordingly, the EPR should address infrastructure policies in the Greenbelt Plan (Section 4.2.2), the Oak Ridges Moraine Conservation Plan (section 41) and the Lake Simcoe Protection Plan (Policies 6.23 and 6.24).	<p>Areas designated under the Greenbelt Plan, Oak Ridges Moraine Conservation Plan and Lake Simcoe Protection Plan are discussed within the relevant segments of the Barrie, Stouffville and Lakeshore East Corridors within the Natural Environment Impact Assessment Report (Appendix A2), the Land Use Baseline Assessment Report (Appendix E1) and the Land Use Impact Assessment Report (Appendix E2).</p> <p>Areas designated under the Greenbelt Plan are discussed within the following sections of Appendix A2: 3.4.9 (BR-4), 3.4.13 (BR-8), 3.4.14 (BR-9), 3.4.15 (BR-10), 3.5.10 (SV-6), 3.6.10 (LSE-5), and 3.6.12 (LSE-7). Impacts to areas designated under the Greenbelt Plan are discussed within sections 4.2.3 (LSW-3), 4.2.4 (LSW-4), and 4.3.2 (KT-2) of Appendix E1 and section 4.1.4 of Appendix E2.</p> <p>Areas designated under the Oak Ridges Moraine Conservation Plan are discussed within the following sections of Appendix A2: 3.4.9 (BR-4), 3.4.10 (BR-5), 3.4.11 (BR-6), 3.5.10 (SV-6), and 3.5.11 (SV-7), within sections 4.4.4 (BR-4), 4.4.5 (BR-5), 4.4.6 (BR-6) and 4.4.7 (BR-7) of Appendix E1, and within section 4.1.2 of Appendix E2.</p> <p>Relevant Lake Simcoe Protection Plan areas will be added to the relevant segments of the Barrie Corridor within the Natural Environment Impact Assessment Report.</p> <p>According to the Oak Ridges Moraine Protection Act, any activities (use, construction, or maintenance) within lands subject to this Plan must generally adhere to all policies in the Plan, with some exceptions. The most stringent restrictions for development are found in areas designated as Natural Core and Natural Linkage Areas. Generally, most types of development are prohibited within these sections. However, transportation, infrastructure, and utilities may be permitted so long as it can be demonstrated that they are necessary and that there are no reasonable alternatives. The proposed Lincolnville PS is located within the settlement area of Oak Ridges Moraine Plan lands, additionally some Overhead Contact System (OCS) infrastructure is proposed within the ORM Boundary. There are no reasonable alternatives to siting OCS in the Oak Ridges Moraine Plan lands, given that OCS can only be located within the pre-existing rail corridors, which were located on these lands prior to the adoption of the Oak Ridges Moraine Plan. In addition, traction power facilities (TPFs) are required to be located in close proximity to the existing rail corridors (amongst other technical criteria) as described in Section 3.4 of EPR Volume 1. The Lincolnville PS is located within the settlement area and is not anticipated to effect any features within the ORM. Furthermore, mitigation measures have been included throughout the EPR to mitigate any potential adverse effects associated with the installation of OCS and TPFs (Section 11 in EPR Volume 3 provides a detailed summary of these measures).</p> <p>None of the proposed TPFs are located within protected lands as stipulated by the Greenbelt Plan. As a result, no policies within the Greenbelt Plan are applicable to the construction and placement of these facilities. On May 10, 2016, The Government of Ontario announced several proposed changes to the Greenbelt Plan including the addition of 21 major urban river valleys, including the Don River, into the Plan’s jurisdiction. Given the long term scope of the project, there is potential for the Don Yard PS to be affected by changes to the Plan. This will be further reviewed during detailed design and the Contractor will be required to comply all applicable laws/legislation. Furthermore,</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>mitigation measures have been included throughout the EPR to mitigate any potential adverse effects associated with the installation of OCS and TPFs (Section 11 in EPR Volume 3 provides a detailed summary of these measures).</p> <p>According to the Lake Simcoe Protection Plan, the most stringent restrictions for development are found in key natural heritage features, key hydrologic features and within a related vegetation protection zone. Generally, most types of development are not permitted within these sections. However, according to Section 6.23 (subsection g) of the LSPP, infrastructure may be permitted so long as the need for the project has been demonstrated through an Environmental Assessment of other similar environmental approval and there is no reasonable alternative. Three TPFs are located within the LSPP lands, including Newmarket SWS, Gilford PS, and Allandale Tap and TPS with additional OCS infrastructure proposed along the existing rail corridor. There are no reasonable alternatives to siting OCS in the LSPP lands, given that OCS can only be located within the pre-existing rail corridors, which were located on these lands prior to the adoption of the LSPP. In addition, traction power facilities are required to be located in close proximity to the existing rail corridors (amongst other technical criteria) as described in Section 3.4 of EPR Volume 1. Furthermore, mitigation measures have been included throughout the EPR to mitigate any potential adverse effects associated with the installation of OCS and TPFs (Section 11 in EPR Volume 3 provides a detailed summary of these measures).</p>
13	Natural Science – Species at Risk	The attached protocol (Bat Surveys) JUST became available today. I thought you might want to pass this along to your consultants.	Received. The document will be reviewed and referenced in the Final EPR as required.

Table 1-21: Ministry of the Environment and Climate Change Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE			
1	Air Quality – Air Quality Baseline Conditions Report	Section 1.3 indicates that the study area used for baseline conditions is 30 metres on either side of the rail right of way. Please confirm if this should be changed to 300 metres.	The sentence in question will be removed from the report. The specific distance from the right of way is not relevant to this study, as the approach taken involved assessment of general background air quality for the regions in the study area regardless of their specific distance from the Metrolinx rail corridors. With this in mind, the Air Quality Baseline Conditions Report will be revised to remove the reference to 30 m and to include the explanation above for clarification.
2	Air Quality – Air Quality Baseline Conditions Report	Acrolein should be included in the list of contaminants of concern Section 3.2 of Appendix F, Part 1.	The following sentence will be added to explain why acrolein was excluded: “Acrolein has previously also been identified as a contaminant of concern in similar transportation studies, however ambient monitored concentrations of acrolein are very limited. Ambient monitoring of acrolein occurred at only one station within the study area, and this station became inactive in 2006. As this data is very limited and may no longer be representative of the air quality in the vicinity of the rail corridors, it was excluded from further analysis.”
3	Air Quality – Air Quality Impact Assessment Report	Appendix F, Part 2 compares the net reduction in total emissions between electrification and Tier 2 diesel-powered trains, however, some of the current Metrolinx fleet are Tier 4 trains. Have these train emissions been included in the overall total of diesel emissions from the rail corridors? Furthermore, an assessment of the difference in emission reductions between electrification and potential conversion to Tier 4 diesel-powered trains should also be done.	<p>A more detailed description of the current fleet will be added to the report. Of the existing fleet, about 90% comply with Tier 2/3 emission standards, and 10% comply with Tier 1 emission standards.</p> <p>A second diesel emission scenario will be added to the analysis where all locomotives comply with Tier 4 emission standards.</p> <p>A more detailed description of the fleet will be added to the Air Quality Impact Assessment Report that is consistent with the Air Quality Baseline Conditions report, and will include Tier 4 trains</p>
4	Air Quality – Air Quality Impact Assessment Report	Section 2.1.1 states that not all trains will be electrified in the future and that these trains were excluded from this assessment. Please elaborate on this statement and include in the report how many trains will remain diesel-powered and why. Please also indicate if electrification will be completed using a phased approach.	<p>Once electrification is implemented, Metrolinx will operate a mixed fleet of both diesel and electric trains so as to service passengers traveling beyond the electrified sections of the corridors (i.e. passengers travelling west of Bramalea GO Station).</p> <p>Electrification is planned to take place over a 10 year timeframe; the phasing plan is a work in progress and will initially involve testing of rolling stock on a commissioning track. The phasing plan is unavailable at this time.</p> <p>Clarification will be added to the report as follows: “It should be noted that only the specific rail corridors outlined in Section 1.1.3 will be electrified. As such, the trains that will travel on the non-electrified corridors must remain diesel-powered.”</p> <p>A table will also be added to list the number of trains that will be electric and diesel along each corridor studied.</p>
5	Air Quality – Air Quality Impact Assessment Report	Section 2.1.1.1 indicates that the number of electric trains that will be running was based on the 2025 weekday trains schedule, while Section 1.1 indicates that this report does not assess proposed new infrastructure required to provide increased GO service levels. Please explain this discrepancy.	There is no discrepancy. Section 1.1 explains how the infrastructure changes to increase the level of service to 2025 levels were / are being addressed as part of separate environmental assessments. The scope of this assessment is to assess the air quality from changing the diesel trains to electric trains. For this, it was necessary to assume that the higher level of service is already in place, but not to assess any infrastructure changes to achieve this higher level as those changes have already been assessed separately.
6	Air Quality – Air Quality Impact Assessment Report	Section 3.1.1.2 indicates that emissions are presented for two electrification scenarios (with and without regenerative braking), and two emission scenarios (all electricity generation from gas power plants and electricity generation distributed across different power generating stations). However, Table 3-2 and Figures 3-1 to 3-5 show three emission scenarios (gas electricity production, average electricity production and capacity electricity production). Furthermore, page 17 refers to four electrification scenarios in Figures 31- to 3-5, while the figures show six electrification scenarios. Please clarify these discrepancies.	<p>It appears that there is some erroneous text that did not reference the proper number of scenarios. This will be corrected to clarify the emissions scenarios and their purpose will also be clarified in the text. The tables will also be clarified to better illustrate that average electricity corresponds to 10% fossil fuels and capacity electricity production corresponds to 28% fossil fuels.</p> <p>In terms of emissions, the scenarios with regenerative braking are preferred. There is not a preferred emissions scenario and these scenarios were developed to bracket the range of actual conditions that are likely to occur.</p> <p>The all natural gas scenario will be removed from the report.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>It is unclear whether the average electricity production refers to the 10% fossil fuel scenario and if capacity electricity production refers to the 28% fossil fuel scenario described in Section 2.1.1.2.</p> <p>Please also clarify which of the above mentioned electrification scenarios is the preferred approach.</p>	
7	Groundwater – Contaminated Soil and Groundwater	Volume 2 (baseline conditions, multiple sections) refers to results of a number of preliminary environmental site assessments (“ESA”) carried out along portions of the rail corridors proposed for electrification. The report summarizes results presented in these ESAs, and a number of areas of contaminated soils and groundwater have been identified, and areas with potentially contaminated soils/groundwater based on identified Area of Potential Environmental Concern (APEC) and Potentially Contaminating Activities (“PCA”). The report identifies areas where environmental assessments have not been completed (data gaps) and recommends further investigation of these areas during the detailed design stage of the project.	This is an accurate summary of the approach followed. No further response required.
8	Groundwater – Contaminated Soil and Groundwater	Volume 3 (impact assessment, multiple sections) indicates that generally excess soils and groundwater from the project shall be analyzed, and where contamination identified, shall be managed/disposed in accordance with applicable legislation (i.e., the Ontario Environmental Protection Act (“EPA”) and relevant Regulations under the Act; and the Ontario Dangerous Goods Transportation Act). The report also indicates that an Excess Materials Management Plan will be developed, and where required remediation measures will be implemented during construction and operation of facilities. The report indicates that specific mitigation and management measures are to be developed during the detailed design stage of the project.	This is an accurate summary of the approach followed. No further response required.
9	Groundwater – Contaminated Soil and Groundwater	Based on my review, contaminated soil/groundwater issues have adequately been addressed at this stage of the project. I concur with the recommendation for further investigation and development of specific mitigation and management measures during the detailed design stage of the project.	Thank you for this acknowledgement.
10	Groundwater - Dewatering	Volume 5 (commitments and future work) identifies that where dewatering during construction is required in excess of 50,000 L/day and Permit To Take Water (“PTTW”) or Environmental Activity Sector Registry (“EASR”) will be required. The report indicates that the need for construction dewatering and associated impacts will be assessed during the detailed design stage of the project as part of the PTTW or EASR process. I concur that this should be evaluated during detailed design, and has been adequately addressed at this stage of the project.	Thank you for this acknowledgement.
11	Groundwater – Wells and Groundwater Supply	Based on my review of the report, I could not determine whether the report identifies the status of, and potential impacts to, wells or groundwater based water supplies. Should the project require dewatering or changes to drainage patterns (i.e., as a result of modifications to stormwater management) that quantity or quality of groundwater may be affected due to drawdown effects or redirection of contamination flows. Although construction dewatering is not anticipated at this point, the report should identify wells and water supplies within the study area, as well as potential impacts that could result from the project. Actual impacts should be evaluated as appropriate during the detailed design stage of the project.	The EPR will be updated to include an overview of wells/water supplies within the study area, as well as a preliminary assessment of potential impacts that could result from the project, which will be subsequently confirmed as appropriate during the detailed design stage of the project.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
12	Groundwater – Wells and Groundwater Supply	With respect to wells, where the project will require the construction or decommissioning of water wells, this shall be done in accordance with Ontario Regulation 903, Wells, under the Ontario Water Resources Act. The report should acknowledge that any well construction or decommissioning shall be carried out in accordance with the Wells Regulation.	The EPR (Volume 5, and Volume 3 as appropriate) will be updated to include specific reference to how Ontario Regulation 903, Wells, under the Ontario Water Resources Act will be adhered to.
13	Groundwater – Groundwater Dependent Natural Heritage Features	Based on my review of the report, I could not determine whether the report identifies potential impacts to groundwater dependent natural heritage features. These features can be impacted as a result of water table lowering from groundwater taking, or changes in drainage patterns. The report should identify groundwater dependent natural heritage features within the study areas, as well as any potential impacts identified.	The EPR will be updated to include identification of groundwater dependent natural heritage features within the study area, as well as a preliminary assessment of potential impacts that could result from the project, which will be subsequently confirmed as appropriate during the detailed design stage of the project.
14	Natural Environment – Surface Water Impacts	<p>1. Volume 3 Impact Assessments categorized the project impacts into 3 categories: Footprint Impacts, Operations and Maintenance Impacts and Construction Impacts. Generally there are no anticipated footprint impacts or net adverse effects to aquatic features. Where there are potential impacts for a few occasions the scale will be determined during the detail design stage. A detailed aquatic assessment was not completed at this stage, as the Report anticipated that impacts to aquatic habitat as a result of the Project will be minimal.</p> <p>2. Based on Scope and Description of the Project, it is agreed that Footprint Impacts of the project to surface water features are not expected to be significant based on preliminary study presented in the DRAFT. It is also agreed that minimal or no Operations and Maintenance Impacts are expected on watercourses since these activities will be contained within the existing Metrolinx rail corridors, including on associated watercourse bridges.</p> <p>3. However, it is expected that Short-term Construction Impacts will be discussed in more details in later stage of the project. Where there is groundwater feeding into surface water, impacts to surface water should be assessed and minimized with the drawdown of groundwater during dewatering. If dewatering is required during construction, adequate Erosion and Sediment Control Plan, and Discharge/Mitigation Plan (if applicable) should be prepared for work near surface water features before construction starts. If a Permit to Take Water (PTTW) or Environmental Activity Sector Registry (EASR) is required, proponent is encouraged to refer to MOECC guidance document or consult with Ministry staff.</p>	<p>1. This is an accurate summary of the approach followed. No further response required.</p> <p>2. Thank you for this acknowledgement.</p> <p>3. If dewatering is determined to be required during construction, an Erosion and Sediment Control Plan and Discharge/Mitigation Plan (if applicable) will be prepared and implemented for work near surface water features before construction starts. Furthermore, if a Permit to Take Water (PTTW) or Environmental Activity Sector Registry (EASR) is required, the MOECC guidance document will be consulted and/or consultation with Ministry staff as appropriate. The EPR will be updated/augmented to include references to these mitigation measures and commitments.</p>
15	Groundwater Contamination	The Report reviewed existing Environmental Site Assessment (ESA) and identified data gaps in terms of soil/groundwater contaminations. Further work as identified in Volume 5 should be carried out on portions of corridors not assessed previously. Where contamination issues are identified, remediation, mitigation and/or contingency plans should be set up to address any issues of concern in the study area, and to prevent contamination migrating into any surface water features during the construction stage.	Yes, this generally summarizes the process outlined in the Draft EPR. The general mitigation measures to be implemented to address soil/groundwater contamination are outlined in Volume 5, Section 1.8.3. Similarly, the additional studies to be undertaken are summarized in Volume 5, Section 1.8.2
16	Stormwater Management	Appendix K presented a preliminary assessment of each Tap location and Traction Power Facility sites. Most sites discussed are small in size a treatment-train approach will be needed to modify existing drainage system or SWM plans in order to meet MOE guideline. Details should be presented during detail design stage to verify potential issues with water quantity, quality and water balance will be properly addressed and enhanced protection (level 1) will be achieved for each site. Since some site locations are tentative, updated site information and SWM plans shall be presented at detailed design stage and submitted for MOECC review/approval.	Yes, as documented in the draft EPR, a detailed SWM analysis will be undertaken during the detailed design stage for the proposed mitigation measures for runoff quantity control, quality control and water balance. Enhanced protection (level 1) will be achieved for each site using treatment train approach. These detailed plans will be submitted to MOECC at the detailed design stage.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
17	Stormwater Management	Where there is sensitive/endangered fish and fish habitat near the site, the design of the SWM features shall take these features into considerations and the SWM facilities shall not have negative impacts on the aquatic features.	As noted in the Natural Environmental Impact Assessment Report (Appendix A) completed as part of the TPAP, no direct adverse impacts to the aquatic SAR are currently anticipated. It should also be noted that draft EPR Volume 5, Section 1.3.2.2 outlines the anticipated permitting requirements related Ministry of Natural Resources and Forestry (MNRF). The more detailed SWM analyses to be completed during detailed design will take into consideration the findings of the Natural Environmental Impact Assessment Report completed as part of the TPAP and will be reviewed to ensure no negative effects to adjacent aquatic SAR.
18	Noise and Vibration – Union Station Rail Corridor	The dimensions, i.e. lengths and heights, for all noise barriers should be indicated on the figures showing their alignments.	<p>Four types of barriers are provided in the figures. In Figure 3s, the existing barriers, existing barriers requiring retrofit and investigated future barriers are shown. In Figure 4s, investigated barriers deemed technically feasible are shown. The information requested is available in the set of figures, but it would be difficult to show all 4 barrier types in the same figure.</p> <p>The dimensions for all barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail can be found in the Table section.</p> <p>The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). A column will be added to the tables to show the barrier heights. The tables will be updated to include the lengths and heights of existing barriers.</p> <p>It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to revise the legend in the Noise and Vibration Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR.</p> <p>Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (existing barriers subject to retrofit; existing noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables.</p> <p>Language will be added to allow for modification if required during detailed design.</p> <p>Metrolinx to include language in the EPR that it commits to constructing noise walls. This commitment will be carried forward to the contract.</p>
19	Noise and Vibration – Union Station Rail Corridor	Please clarify why a scenario of “Future No-Build” is included in the some sections of the report. The assessment of noise and vibration impacts should be based on the impact assessment methods of the 1995 MOEE / GO Transit Protocol.	The evaluation of the GO Rail Network Electrification is the assessment to be evaluated as part of the TPAP process, which followed the 1995 MOEE / GO Transit Protocol. In the terms described in the 1995 Protocol, the pre-project is defined as the existing rail operations, the post-project is defined as the 15-minute RER service with electrification. The evaluation of the “Future No-Build” (or Diesel RER) scenario was included for information purposes only.
20	Noise and Vibration – Union Station Rail Corridor	The built-in FTA algorithm in CadnaA used in the study is not yet approved by the MOECC. The predictions of this study should be verified at representative receptor locations with the FTA software.	<p>In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used.</p> <p>The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC.</p> <p>A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>MOECC advised that it accepts use of the FTA software; however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.</p>
21	Noise and Vibration – Union Station Rail Corridor	There are several switches along this corridor, around Union Station and at the layover sites. It is recommended that an analysis of switch heater noise be included; so this would be a winter time analysis. However, in summer, this would be a non-issue but HVAC units on the passenger cars would be operating while trains are idling at switch points, the layover sites and at Union Station. Please verify the worst-case scenario and that the applicable noise sources have been included.	<p>The 1995 MOEE / GO Transit Protocol is prescriptive on sources to be included as part of the impact assessment. Rail noise is to include the operation of trains on the rail, operation of trains inside commuter stations and idling of trains inside commuter stations. The worst-case rail noise is as evaluated, rail noise and idling of trains to run the HVAC equipment in the passenger cars, as these two sources are to be assessed cumulatively.</p> <p>The switch heater noise will be evaluated at the detailed design stage for the Union Station Rail Corridor East Enhancements project (this is a separate and distinct project from the Electrification TPAP) against the MOECC’s NPC-300 guideline.</p>
22	Noise and Vibration – Union Station Rail Corridor	Please comment on the possible use of whistles and bells in and out of the station and layover sites.	<p>Train whistles are a requirement under the Railway Safety Act which is administered and regulated by Transport Canada. Metrolinx is required to follow specific safety rules set by the federal government, through Transport Canada, for sounding bells and whistles. Bells and whistles are used in different ways for different situations and the unnecessary use of them is not permitted.</p> <p>Metrolinx is working on a noise strategy to deal with noise from operations including reducing bell and whistle noise.</p> <p>Whistles are not used at stations or layovers. If required, whistles may be used at public crossings at grade, which has been modelled in our assessment.</p> <p>Bells may be used at stations and layovers; however, these are for safety concerns and generally cannot be mitigated. These were not included in our assessment.</p>
23	Noise and Vibration – Union Station Rail Corridor	Given the high density of structures in the area, please verify the surface reflection values used in the acoustic model.	Similar to calculations done in the STEAM algorithm, the surface reflection is not a parameter considered in the FTA calculations. The parameter is only considered for stationary sources, such as idling or traction power facilities, as they are modelled using the ISO 9613 algorithms. In most cases, the idling and traction power facility sources are located in direct line of sight from the point of reception. Where idling or traction power facility sources are located in areas where surface reflections could have an impact, rail noise is considered the dominant source of noise and reflections would have an insignificant impact on the assessment.
24	Noise and Vibration – Union Station Rail Corridor	Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses, as there is current rail traffic available. In addition, more receptors should be selected to represent the vibration sensitive land uses along the entire length of the rail corridor. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol, as well as the vibration	As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual. Where required, specific vibration control measures should be recommended for all affected locations, with figures to clearly show the locations and extents of the recommended vibration control measures.	<p>The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor.</p> <p>Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting existing measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Metrolinx evaluated modelled existing vibration levels against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.</p> <p>Vibration impacts due to construction were evaluated against structural damage and perceptibility limits.</p> <p>Examples of what vibration control measures would be appropriate such as ballast mats, under sleeper pads or resilient fixation have been recommended within the report. These will be reviewed and confirmed for each location as the design progresses.</p> <p>Figures will be revised to clearly show the locations and extents of the proposed/recommended vibration control measures.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI clarified that a limited number of relevant representative receptor locations were used (amongst hundreds of other across all of the corridors). MOECC advised that this methodology is not easily defensible.</p> <p>Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.</p> <p>The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design.</p>
25	Noise and Vibration – Union Station Rail Corridor	The locations of the Layover Sites should be labeled in Figure 1.	The locations of the Layover Sites will be added to Figure 1. Where applicable, this will be done for all reports.
26	Noise and Vibration – Union Station Rail Corridor	It is recommended that the plot of Traction Power Facilities be removed from the graph of Figure 4 (please also note there are two different figure 4s), since it is stated in the report that Traction Power facilities are not included in this corridor.	The installation of Traction Power Facilities will be removed from the plot “Anticipated Construction Sound Level and Various Distances to Receptors”. Duplicate figure numbering will be revised.
27	Noise and Vibration – Union Station Rail Corridor	Please check the graphs of Appendix D – there appears to be one plot repeated and the directions shown at the bottom do not match the directions given in the graph titles.	Appendix D will be updated to show correct plots.
28	Noise and Vibration – Union Station Rail Corridor	Sample noise calculations should be included in an appendix.	A sample Cadna/A calculations will be provided.
29	Noise and Vibration – Barrie Corridor	Noise Barriers: three (3) types of barriers were investigated, namely: existing barriers; investigated future barriers deemed not feasible; and investigated future barriers deemed feasible. For this project, there are four (4) different types of barriers, namely: existing barriers not subject to retrofit; existing barriers subject to retrofit; future barriers deemed not feasible;	Four types of barriers are provided in the figures. In Figure 3s, the existing barriers, existing barriers requiring retrofit and investigated future barriers are shown. In Figure 4s, investigated barriers deemed technically feasible are shown. The information requested is available in the set of figures, but it would be difficult to show all 4 barrier types in the same figure.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		and future barriers deemed feasible. These four types of noise barriers should be depicted in figures that clearly show their locations, lengths and heights. Add the columns within Table 6a indicating the barriers heights and if they are absorptive.	<p>The dimensions for all barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail can be found in the Table section.</p> <p>The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). A column will be added to the tables to show the barrier heights. The tables will be updated to include the lengths and heights of existing barriers.</p> <p>It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to revise the legend in the Noise and Vibration Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR.</p> <p>Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (existing barriers subject to retrofit; existing noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables.</p> <p>Language will be added to allow for modification if required during detailed design.</p> <p>Metrolinx to include language in the EPR that it commits to constructing noise walls. This commitment will be carried forward to the contract.</p>
30	Noise and Vibration – Barrie Corridor	Assessment Scenarios: a future no build scenario was mentioned in the noise report. In accordance with the applicable MOEE / GO Transit Protocol dated January 1995 (not 1994, as noted within the submitted report), there are two assessment scenarios; namely Pre-Project (includes ambient sound level and existing rail service) and GO Transit Project. The assessment of noise and vibration impacts should be based on the two assessment scenarios included in the 1995 Protocol.	The evaluation of the GO Rail Network Electrification is the assessment to be evaluated as part of the TPAP process, which followed the 1995 MOEE / GO Transit Protocol. In the terms described in the 1995 Protocol, the pre-project is defined as the existing rail operations, the post-project is defined as the 15-minute RER service with electrification. The evaluation of the “Future No-Build” (or Diesel RER) scenario was included for information purposes only.
31	Noise and Vibration – Barrie Corridor	Existing Vibration Levels: these levels were predicted at six (6) receptor locations. Existing vibration levels should be measured and assessed using the running average RMS (Root-Mean Square) vibration velocity (mm/sec) levels at locations representative of all the vibration sensitive land uses, since there are GO and CN trains currently travelling along the entire rail corridor. Where applicable, the measurement/assessment shall include vibration generated by non-Go transit rail traffic. Future vibration levels can be predicted using the FTA Manual (2012).	<p>Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting existing measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Modelled existing vibration levels were evaluated against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI clarified that a limited number of relevant representative receptor locations were used (amongst hundreds of other across all of the corridors). MOECC advised that this methodology is not easily defensible.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.
32	Noise and Vibration – Barrie Corridor	Vibration Receptors: six (6) receptors were selected for the vibration impact assessment. More receptors should be selected to represent vibration sensitive land uses along the entire length of the rail corridor. The selected receptors should include existing buildings, planned buildings and vacant lots, where applicable. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol. The selected receptors can also address the vibration impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual.	<p>As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches.</p> <p>The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor.</p> <p>Vibration impacts due to construction were evaluated against structural damage and perceptibility limits. As construction could occur at any location along the rail corridor, it was assumed that the sensitive receptors would be located in close proximity. For this reason, distance setbacks were recommended as mitigation measures to ensure that vibrations construction damage and perceptibility levels were not exceeded.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI/Metrolinx confirmed that approved development information was requested from the various municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment.</p> <p>Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.</p>
33	Noise and Vibration – Barrie Corridor	Vibration Control Measures: three (3) different alternative control measures were recommended for the five (5) receptor locations where vibration levels were predicted to exceed the applicable limits. Specific vibration control measures should be recommended for all affected locations. Furthermore, provide detailed information (including figures and tables) to clearly show the locations and extents of the proposed vibration control measures (ballast masts, under sleeper pads, or resilient fixations,...) for other receptors with similar conditions (i.e. 75 metres distance to proposed new switches or other special track work, or 20-25 metres distance to the proposed new rail tracks) as the evaluated receptors.	<p>The GO Rail Network Electrification TPAP vibration study identifies areas where vibration mitigation will be considered as well as options for mitigating increased vibration levels. Vibration mitigation solutions can include but are not limited to, ballast mats, under sleeper pads or resilient fixation. The Noise and Vibration Impact Assessment is a preliminary evaluation that will be refined during detailed design. The type of vibration mitigation has not been determined. This will be reviewed further during detailed design</p> <p>Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design.</p>
34	Noise and Vibration – Barrie Corridor	Table 1: one hundred and thirty three (133) noise and vibration receptors are listed in Table 1. It is preferred if these noise and vibration receptors are also categorized by the different rail sections listed in Tables 2a and 2b.	Table 1 will be revised to show the different rail sections listed in Tables 2a and 2b. This will be done for all reports within Appendix G.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
35	Noise and Vibration – Barrie Corridor	Tables 7a and 7b: the titles of these tables indicate that the investigated noise barriers are technically feasible whereas the title of the last column in these tables indicates technical infeasibility. This contradiction should be explained.	The titles of Table 7a and Table 7b will be revised for clarity. This will be done for all reports in Appendix G.
36	Noise and Vibration – Barrie Corridor	Figure 1a: this figure shows the locations of the eleven (11) GO Stations (the text of the report should be corrected to include the missing York University Go Station) and Traction Power Facilities. This figure should also show the locations of the Layover Sites (both, the existing and proposed location).	<p>The text will be revised to explain that York University Station is to be replaced by Downsview Station. York University Station is evaluated in the existing or pre-project scenario. Downsview Station is evaluated in the future or post-project scenarios.</p> <p>The locations of the Layover Sites will be added to Figure 1. Where applicable, this will be done for all reports in Appendix G.</p>
37	Noise and Vibration – Barrie Corridor	Figures 2-1 to 2-27: these figures show the locations of noise and vibration receptors. The selected noise and vibration receptors should represent the worst case (i.e. the closest and most exposed) receptors with respect to the current undertaking. Furthermore, the receptors should represent all the noise and vibration sensitive land uses that are existing or planned for future construction, as well as the vacant lots, where applicable.	<p>A detailed analysis was completed to ensure that results for the worst-case and representative receptors were included in detail in the reports.</p> <p>The reporting shows only representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. In general, for areas where a new track is installed adjacent to an existing track without special track work, the area where there is more than a 25% increase in vibration level doesn't extend further than a few meters from the rail right of way. Most impacted receptors are located in areas of special track work, where the area of influence is much larger.</p> <p>As per the 1995 MOEE / GO Transit Protocol, noise and vibration impacts must be evaluated at lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision.</p> <p>In order to address the point raised by MOECC regarding the need to incorporate sensitive land uses that are existing or planned for future construction, we sent out data requests to each relevant municipality. Where we received the requested data, we have converted the data provided to GIS and taken a closer look at what data we can and can't use. Generally speaking, most of the data cannot be used for the intended purpose of identifying and assessing future noise receptors (residences) because it does not clearly distinguish between commercial and residential development. Where the distinction is clear, we would require site plans to be able to locate the receptors properly – in order to conduct an assessment without overestimating or underestimating potential noise impacts, information is required on precisely where the receptor will be. This can generally only be done where there is a Site Plan available.</p> <p>The available approved land use information falls into one of three categories:</p> <ol style="list-style-type: none">1. An approved future development is identified, but it is not clear whether it is residential or commercial, and no Site Plan was provided;2. An approved future development is identified as a residential project, but no Site Plan was provided; or3. An approved future development is identified as a residential project and a Site Plan was provided. <p>Where possible, we will incorporate and address new information that identifies future developments and potentially new receptors that may be impacted by noise from future train traffic. Future developments could be considered receptors where they meet the definition of a noise-sensitive receptor; most often these are residences. Commercial developments are not considered noise-sensitive receptors.</p> <ol style="list-style-type: none">A. We will use available information to identify future developments that are adjacent to rail corridors. Where we have information on future residential developments with a Site Plan provided (category 3), we will include them as receptors in the analysis of noise impacts and potential mitigation.B. For cases where a Site Plan was not provided (categories 1 and 2), we will not include the properties as receptors in the analysis. To identify the potential that these developments may need to be considered as receptors in future (e.g., during detailed design of noise mitigation), we will conduct a screening-level analysis and include – in

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>an appendix to the report for each corridor – information in tabular and/or graphical format that indicates the locations of these land parcels, whether they would be protected by noise barriers already proposed, and if not, whether there is a potential for noise impacts on these future developments adjacent to the rail corridor to warrant further mitigation investigation. This may be done by indicating a setback distance from the Metrolinx rail ROW where impacts might warrant investigation of noise mitigation. This information will allow for screening of these future developments to identify those that may need to be examined in more detail at a later date.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities.</p> <p>Please also refer to Comment response #32.</p>
38	Noise and Vibration – Barrie Corridor	Appendix F: this appendix includes sample vibration calculations. Sample noise calculations should also be included. It should be noted that the approach/model of prediction of rail traffic noise by the FTA algorithm, implemented in CadnaA software, is not yet approved by the MOECC. These predictions should be verified at representative receptor locations using the FTA software. Please provide sample noise calculations using the FTA spreadsheet to validate the CadnaA FTA software calculations.	<p>In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used.</p> <p>The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model.</p> <p>Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC.</p> <p>A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.</p> <p>A sample Cadna/A calculations will be provided.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>MOECC advised that it accepts use of the FTA software; however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.</p>
39	Noise and Vibration – Barrie Corridor	Appendix G: this appendix lists the noise-bylaws in eight (8) municipalities. Reference should also be made to the specific noise and vibration bylaws pertaining to construction, where applicable.	The bylaws listed only pertain to construction noise and vibration.
40	Noise and Vibration – Lakeshore East Corridor	<p>Assessment Locations: the building facades were used to assess noise during the day and night. This is incorrect. The daytime location is the outdoor living area (OLA) taken at 3 metres from the rear façade at 1.5 metres above ground level, while the nighttime location is the building façade at the bedroom window at 4.5 metres above ground level (for two storey houses).</p> <p>The location for vibration assessment is 5 to 10 metres away from the building foundation in a direction parallel to the tracks.</p>	<p>It is acknowledged that the location of the OLA must be 3 metres from the façade, the façade must be located at the rear of the building and the location of a vibration receptor must be 5-10 metres from the façade.</p> <p>The OLA and façade receptors were placed in the same locations, given the large number of receptors associated with this particular project. It should be noted that although the report shows a limited number of points of reception, this is a subset of thousands of individual points of reception that were evaluated for each corridor. The façade receptors were evaluated at a height of 4.5 m above grade. The OLA were evaluated at a height of 1.5 m above grade. Both points of reception were located</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>at the same point on the receiving property. A sensitivity analysis was conducted, and concluded that this simplification would not result in significant changes in the results of the study. Further description of this approach will be included in the report.</p> <p>To meet the 1995 MOEE / GO Transit Protocol guidance, the vibration points of reception should have been placed to be 5 to 10 meters from the building façade. As the assessment is a change assessment, as long as the vibration point of reception is chosen to be the same in both the pre-project scenario and post-project scenario, this would have no impact on the result for most cases.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to document that a conservative approach was taken in the placement of OLAs in order to expedite an analysis of the 250m km of track work. 5 metre noise barriers were assumed for mitigation at the edge of the rail right-of way.</p> <p>RWDI to document that a sensitivity analysis was completed to confirm that the assessment met the intent of the 1995 MOE/GO Transit Protocol and as justification for the deviation. Metrolinx to provide the Sensitivity Analysis to MOECC.</p>
41	Noise and Vibration – Lakeshore East Corridor	Noise Barriers: three types of barriers were investigated, namely: existing barriers; future barriers deemed not feasible; and future barriers deemed feasible. For this project, there are four different types of barriers, namely: existing barriers not subject to retrofit; existing barriers subject to retrofit; future barriers deemed not feasible; and future barriers deemed feasible. These four types of noise barriers should be depicted in figures that clearly show their locations, lengths and heights.	<p>Four types of barriers are provided in the figures. In Figure 3s, the existing barriers, existing barriers requiring retrofit and investigated future barriers are shown. In Figure 4s, investigated barriers deemed technically feasible are shown. The information requested is available in the set of figures, but it would be difficult to show all 4 barrier types in the same figure.</p> <p>The dimensions for all barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail can be found in the Table section.</p> <p>The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). A column will be added to the tables to show the barrier heights. The tables will be updated to include the lengths and heights of existing barriers.</p> <p>It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to revise the legend in the Noise and Vibration Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR.</p> <p>Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (existing barriers subject to retrofit; existing noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables.</p> <p>Language will be added to allow for modification if required during detailed design.</p> <p>Metrolinx to include language in the EPR that it commits to constructing noise walls. This commitment will be carried forward to the contract.</p>
42	Noise and Vibration – Lakeshore East Corridor	Assessment Scenarios: a future no build scenario was mentioned in the noise report. In accordance with the applicable MOEE / GO Transit Protocol dated January 1995, there are two assessment scenarios; namely Pre-Project (includes ambient sound level and existing rail service)	The evaluation of the GO Rail Network Electrification is the assessment to be evaluated as part of the TPAP process, which followed the 1995 MOEE / GO Transit Protocol. In the terms described in the 1995 Protocol, the pre-project is defined as the

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		and GO Transit Project. The assessment of noise and vibration impacts should be based on the two assessment scenarios included in the 1995 Protocol.	existing rail operations, the post-project is defined as the 15-minute RER service with electrification. The evaluation of the “Future No-Build” (or Diesel RER) scenario was included for information purposes only.
43	Noise and Vibration – Lakeshore East Corridor	Prediction of Road Traffic Noise: the RLS-90 algorithm implemented in CadnaA software was used for prediction of road traffic noise. This model is not approved by the MOECC. Prediction of road traffic noise shall be carried out using the ORNAMENT algorithm / STAMSON software.	Spot checks have been conducted to verify that the RLS-90 model produces similar results to the ORNAMENT algorithm. Nonetheless, the modelling will be updated to use a spreadsheet implementation of the ORNAMENT algorithm.
44	Noise and Vibration – Lakeshore East Corridor	Prediction of Rail Traffic Noise: the FTA algorithm implemented in CadnaA software was used for prediction of rail traffic noise. This model is not yet approved by the MOECC. These predictions should be verified at representative receptor locations using the FTA software.	<p>In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used.</p> <p>The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model.</p> <p>Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC.</p> <p>A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>MOECC advised that it accepts use of the FTA software; however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.</p>
45	Noise and Vibration – Lakeshore East Corridor	Existing Vibration Levels: these levels were predicted at eight receptor locations. Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses since GO, VIA and CN trains are currently travelling along the entire rail corridor. Future vibration levels can be predicted using the FTA Manual (2012).	<p>Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting existing measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Modelled existing vibration levels were evaluated against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI clarified that a limited number of relevant representative receptor locations were used (amongst hundreds of other across all of the corridors). MOECC advised that this methodology is not easily defensible.</p> <p>Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.</p>
46	Noise and Vibration – Lakeshore East Corridor	Vibration Receptors: eight receptors were selected for the vibration impact assessment. More receptors should be selected to represent the vibration sensitive land uses along the entire length of the rail corridor (50 km long). The selected receptors should include the existing buildings,	As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		planned buildings and vacant lots, where applicable. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol. The selected receptors can also address the vibration impacts due to construction and how they compare to the limits set for annoyance and structure damage in the 2012 FTA Manual.	<p>closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches.</p> <p>The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor.</p> <p>Vibration impacts due to construction was evaluated against structural damage and perceptibility limits. As construction could occur at any location along the rail corridor, it was assumed that the sensitive receptors would be located in close proximity. For this reason, distance setbacks were recommended to ensure that vibrations construction damage and perceptibility levels were not exceeded.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI/Metrolinx confirmed that approved development information was requested from the various municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment.</p> <p>Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.</p>
47	Noise and Vibration – Lakeshore East Corridor	Vibration Control Measures: three difference alternative control measures were recommended for the six receptor locations where vibration levels were predicted to exceed the applicable limits. Specific vibration control measures should be recommended for all affected locations. Furthermore, figures should be provided to clearly show the locations and extents of the recommended vibration control measures.	<p>The GO Rail Network Electrification TPAP vibration study identifies areas where vibration mitigation will be considered as well as options for mitigating increased vibration levels. Vibration mitigation solutions can include but are not limited to, ballast mats, under sleeper pads or resilient fixation. The Noise and Vibration Impact Assessment is a preliminary evaluation that will be refined during detailed design. The type of vibration mitigation has not been determined. This will be reviewed further during detailed design.</p> <p>Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design.</p>
48	Noise and Vibration – Lakeshore East Corridor	Table 1: one hundred and four noise receptors are listed in Table 1. It is preferred if these noise receptors are categorized by the difference rail sections listed in Tables 2a and 2b.	Table 1 will be updated to show the different rail sections listed in Tables 2a and 2b. This will be done for all reports in Appendix G.
49	Noise and Vibration – Lakeshore East Corridor	Tables 7a and 7b: the titles of these tables indicate that the investigated noise barriers are technically feasible whereas the title of the last column in these tables indicates technical infeasibility. This contradiction should be explained.	The titles for Table 7a and Table 7b will be updated for clarity. This will be done for all reports in Appendix G.
50	Noise and Vibration – Lakeshore East Corridor	Figure 1a: this figure shows the locations of the GO Stations and Traction Power Facilities. This figure should also show the locations of the Layover Sites and the East Rail Maintenance Facility.	The locations of the Layover Sites will be added to Figure 1. If applicable, this will also be done for Appendix G
51	Noise and Vibration – Lakeshore East Corridor	Figures 2a to 2m: these figures show the locations of the noise and vibration receptors. The selected noise and vibration receptors should represent the worst case (i.e. the closest and most expose) receptors with respect to the current undertaking. Furthermore, the receptors should	A detailed analysis was completed to ensure that results for the worst-case and representative receptors were included in detail in the reports.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		represent all the noise and vibration sensitive land uses that are existing, planned for future construction as well as vacant lots, where applicable.	<p>The reporting shows only representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. In general, for areas where a new track is installed adjacent to an existing track without special track work, the area where there is more than a 25% increase in vibration level doesn't extend further than a few meters from the rail right of way. Most impacted receptors are located in areas of special track work, where the area of influence is much larger.</p> <p>As per the 1995 MOEE / GO Transit Protocol, noise and vibration impacts must be evaluated at lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision.</p> <p>In order to address the point raised by MOECC regarding the need to incorporate sensitive land uses that are existing or planned for future construction, we sent out data requests to each relevant municipality. Where we received the requested data, we have converted the data provided to GIS and taken a closer look at what data we can and can't use. Generally speaking, most of the data cannot be used for the intended purpose of identifying and assessing future noise receptors (residences) because it does not clearly distinguish between commercial and residential development. Where the distinction is clear, we would require site plans to be able to locate the receptors properly – in order to conduct an assessment without overestimating or underestimating potential noise impacts, information is required on precisely where the receptor will be. This can generally only be done where there is a Site Plan available.</p> <p>The available approved land use information falls into one of three categories:</p> <ol style="list-style-type: none">1. An approved future development is identified, but it is not clear whether it is residential or commercial, and no Site Plan was provided;2. An approved future development is identified as a residential project, but no Site Plan was provided; or3. An approved future development is identified as a residential project and a Site Plan was provided. <p>Where possible, we will incorporate and address new information that identifies future developments and potentially new receptors that may be impacted by noise from future train traffic. Future developments could be considered receptors where they meet the definition of a noise-sensitive receptor; most often these are residences. Commercial developments are not considered noise-sensitive receptors.</p> <ol style="list-style-type: none">A. We will use available information to identify future developments that are adjacent to rail corridors. Where we have information on future residential developments with a Site Plan provided (category 3), we will include them as receptors in the analysis of noise impacts and potential mitigation.B. For cases where a Site Plan was not provided (categories 1 and 2), we will not include the properties as receptors in the analysis. To identify the potential that these developments may need to be considered as receptors in future (e.g., during detailed design of noise mitigation), we will conduct a screening-level analysis and include – in an appendix to the report for each corridor – information in tabular and/or graphical format that indicates the locations of these land parcels, whether they would be protected by noise barriers already proposed, and if not, whether there is a potential for noise impacts on these future developments adjacent to the rail corridor to warrant further mitigation investigation. This may be done by indicating a setback distance from the Metrolinx rail ROW where impacts might warrant investigation of noise mitigation. This information will allow for screening of these future developments to identify those that may need to be examined in more detail at a later date. <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Please also refer to Comment response #46.
52	Noise and Vibration – Lakeshore East Corridor	Appendix F: this appendix includes sample vibration calculations. Sample noise calculations should also be included.	A sample Cadna/A calculations will be provided.
53	Noise and Vibration – Lakeshore East Corridor	Appendix G: this appendix lists the noise-bylaws in six municipalities. Reference should also be made to the specific noise and vibration bylaws pertaining to construction, where applicable.	The by-laws listed only pertain to construction noise and vibration.
54	Noise and Vibration – Lakeshore West Corridor	Noise Barriers: three types of barriers were investigated, namely: existing barriers; investigated barriers deemed not feasible; and investigated barriers deemed feasible. For this project, there are four different types of barriers, namely: existing barriers not subject to retrofit; existing barriers subject to retrofit; future barriers investigated but deemed not feasible; and future barriers investigated and deemed feasible. These four types of noise barriers should be depicted in figures that clearly show their locations, lengths and heights. Please also provide additional clarifications for the selection of a 5 dB reduction criteria for feasibility based on a maximum height of 5 metres.	<p>Four types of barriers are provided in the figures. In Figure 3s, the existing barriers, existing barriers requiring retrofit and investigated future barriers are shown. In Figure 4s, investigated barriers deemed technically feasible are shown. The information requested is available in the set of figures, but it would be difficult to show all 4 barrier types in the same figure.</p> <p>The dimensions for all barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail can be found in the Table section.</p> <p>The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). A column will be added to the tables to show the barrier heights. The tables will be updated to include the lengths and heights of existing barriers.</p> <p>It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations.</p> <p>Metrolinx is committing to build barriers with a height of 5 m, this is what was evaluated by RWDI. The 5 dB reduction criteria to deem a barrier feasible comes directly from the 1995 MOEE / GO Transit Protocol section 4.1.4: When a ‘significant or greater’ impact is predicted, the potential to mitigate will be evaluated based on administrative, operations, economic and technical feasibility. The significant Adjusted Impact is defined as 5-9.99 dB.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to revise the legend in the Noise and Vibration Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR.</p> <p>Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (existing barriers subject to retrofit; existing noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables.</p> <p>Language will be added to allow for modification if required during detailed design.</p> <p>Metrolinx to include language in the EPR that it commits to constructing noise walls. This commitment will be carried forward to the contract.</p>
55	Noise and Vibration – Lakeshore West Corridor	Assessment Scenarios: a future no build scenario was mentioned in the noise report. In accordance with the applicable MOEE / GO Transit Protocol dated January 1995, there are two assessment scenarios; namely Pre-Project (includes ambient sound level and existing rail service)	The evaluation of the GO Rail Network Electrification is the assessment to be evaluated as part of the TPAP process, which followed the 1995 MOEE / GO Transit Protocol. In the terms described in the 1995 Protocol, the pre-project is defined as the

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		and GO Transit Project. The assessment of noise and vibration impacts should be based on the two assessment scenarios included in the 1995 Protocol.	existing rail operations, the post-project is defined as the 15-minute RER service with electrification. The evaluation of the “Future No-Build” (or Diesel RER) scenario was included for information purposes only.
56	Noise and Vibration – Lakeshore West Corridor	Prediction of Road Traffic Noise: the RLS-90 algorithm implemented in CadnaA software was used for prediction of road traffic noise. This model is not approved by the MOECC. Prediction of road traffic noise shall be carried out using the ORNAMENT algorithm / STAMSON software.	Spot checks have been conducted to verify that the RLS-90 model produces similar results to the ORNAMENT algorithm. Nonetheless, the modelling will be updated to use a spreadsheet implementation of the ORNAMENT algorithm.
57	Noise and Vibration – Lakeshore West Corridor	Prediction of Rail Traffic Noise: the FTA algorithm implemented in CadnaA software was used for prediction of rail traffic noise. This model is not yet approved by the MOECC. These predictions should be verified at representative receptor locations using the FTA software.	<p>In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used.</p> <p>The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model.</p> <p>Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC.</p> <p>A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>MOECC advised that it accepts use of the FTA software; however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.</p>
58	Noise and Vibration – Lakeshore West Corridor	Existing Vibration Levels: these levels were predicted at one receptor location. Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses since GO, VIA and CN trains are currently travelling along the entire rail corridor. Future vibration levels can be predicted using the FTA Manual (2012).	<p>Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting existing measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Modelled existing vibration levels were evaluated against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI clarified that a limited number of relevant representative receptor locations were used (amongst hundreds of other across all of the corridors). MOECC advised that this methodology is not easily defensible.</p> <p>Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.</p>
59	Noise and Vibration – Lakeshore West Corridor	Vibration Receptors: one receptor was selected for the vibration impact assessment. More receptors should be selected to represent the vibration sensitive land uses along the entire length of the rail corridor. The selected receptors should include the existing and planned buildings,	As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		where applicable. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol. The selected receptors can also address the vibration impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual.	<p>closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches.</p> <p>The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor.</p> <p>Vibration impacts due to construction was evaluated against structural damage and perceptibility limits. As construction could occur at any location along the rail corridor, it was assumed that the sensitive receptors would be located in close proximity. For this reason, distance setbacks were recommended to ensure that vibrations construction damage and perceptibility levels were not exceeded.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI/Metrolinx confirmed that approved development information was requested from the various municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment.</p> <p>Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.</p>
60	Noise and Vibration – Lakeshore West Corridor	Table 1: seventy-nine noise receptors are listed in Table 1. It is preferred if these noise receptors are also categorized by the different rail sections listed in Tables 2a through 2c.	Table 1 will be revised to show the different rail sections listed in Tables 2a and 2b. This will be done for all reports in Appendix G.
61	Noise and Vibration – Lakeshore West Corridor	Table 7: the title of this table indicates that the investigated noise barriers are technically feasible whereas the title of the last column in this table indicates technical infeasibility. This contradiction should be explained.	The titles for Table 7 will be revised for clarity. This will be done for all reports in Appendix G.
62	Noise and Vibration – Lakeshore West Corridor	Figure 1a: this figure shows the locations of the GO Stations and Traction Power Facilities. This figure should also show the locations of all existing/proposed Layover Sites and Maintenance Facilities.	The locations of the Layover Sites will be added to Figure 1. Where applicable, this will be done for all reports in Appendix G.
63	Noise and Vibration – Lakeshore West Corridor	Figures 2a to 2j: these figures show the locations of the noise and vibration receptors. The selected noise and vibration receptors should represent the worst case (i.e. the closest and most exposed) receptors with respect to the current undertaking (including but not limited to the high-rise under construction west of the Burlington GO Station). The receptors should represent all the noise and vibration sensitive land uses that are existing and planned for future construction, where applicable.	<p>A detailed analysis was completed to ensure that results for the worst-case and representative receptors were included in detail in the reports.</p> <p>The reporting shows only representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. In general, for areas where a new track is installed adjacent to an existing track without special track work, the area where there is more than a 25% increase in vibration level doesn't extend further than a few meters from the rail right of way. Most impacted receptors are located in areas of special track work, where the area of influence is much larger.</p> <p>As per the 1995 MOEE / GO Transit Protocol, noise and vibration impacts must be evaluated at lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision.</p> <p>In order to address the point raised by MOECC regarding the need to incorporate sensitive land uses that are existing or planned for future construction, we sent out data requests to each relevant municipality. Where we received the requested</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>data, we have converted the data provided to GIS and taken a closer look at what data we can and can't use. Generally speaking, most of the data cannot be used for the intended purpose of identifying and assessing future noise receptors (residences) because it does not clearly distinguish between commercial and residential development. Where the distinction is clear, we would require site plans to be able to locate the receptors properly – in order to conduct an assessment without overestimating or underestimating potential noise impacts, information is required on precisely where the receptor will be. This can generally only be done where there is a Site Plan available.</p> <p>The available approved land use information falls into one of three categories:</p> <ol style="list-style-type: none">4. An approved future development is identified, but it is not clear whether it is residential or commercial, and no Site Plan was provided;5. An approved future development is identified as a residential project, but no Site Plan was provided; or6. An approved future development is identified as a residential project and a Site Plan was provided. <p>Where possible, we will incorporate and address new information that identifies future developments and potentially new receptors that may be impacted by noise from future train traffic. Future developments could be considered receptors where they meet the definition of a noise-sensitive receptor; most often these are residences. Commercial developments are not considered noise-sensitive receptors.</p> <p>C. We will use available information to identify future developments that are adjacent to rail corridors. Where we have information on future residential developments with a Site Plan provided (category 3), we will include them as receptors in the analysis of noise impacts and potential mitigation.</p> <p>For cases where a Site Plan was not provided (categories 1 and 2), we will not include the properties as receptors in the analysis. To identify the potential that these developments may need to be considered as receptors in future (e.g., during detailed design of noise mitigation), we will conduct a screening-level analysis and include – in an appendix to the report for each corridor – information in tabular and/or graphical format that indicates the locations of these land parcels, whether they would be protected by noise barriers already proposed, and if not, whether there is a potential for noise impacts on these future developments adjacent to the rail corridor to warrant further mitigation investigation. This may be done by indicating a setback distance from the Metrolinx rail ROW where impacts might warrant investigation of noise mitigation. This information will allow for screening of these future developments to identify those that may need to be examined in more detail at a later date.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities.</p> <p>Please also refer to Comment response #59 above.</p>
64	Noise and Vibration – Lakeshore West Corridor	Appendix F: this appendix includes sample vibration calculations. Sample noise calculations should also be included.	A sample Cadna/A calculations will be provided.
65	Noise and Vibration – Lakeshore West Corridor	Appendix G: this appendix lists the noise-bylaws in six sample municipalities. Noise-bylaws corresponding to the communities along the Lakeshore West Corridor should also be listed. Reference should also be made to the specific noise and vibration bylaws pertaining to construction, where applicable.	The by-laws listed only pertain to construction noise and vibration.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
66	Noise and Vibration – Stouffville Corridor	Assessment Locations: the building façades were used to assess noise during the day and night. This is incorrect. The daytime location is the outdoor living area (OLA) taken at 3 metres from the rear façade at 1.5 metres above ground level, while the nighttime location is the building façade at the bedroom window at 4.5 metres above ground level (for two storey houses). The location for vibration assessment is 5 to 10 metres away from the building foundation in a direction parallel to the tracks.	<p>Metrolinx is aware that the location of OLA must be 3 metres from the façade, the façade must be located at the rear of the building and the location of a vibration receptor must be 5-10 metres from the façade.</p> <p>The OLA and façade receptors were placed in the same locations for efficiency purposes, given the large number of receptors in the project. It should be noted although the report shows a limited number of points of reception, this is a subset of thousands of individual points of reception that were evaluated for each corridor. The façade receptors were evaluated at a height of 4.5 m above grade. The OLA were evaluated at a height of 1.5 m above grade, however both points of reception were located at the same point on the receiving property. A sensitivity analysis was conducted, and concluded that this simplification would not result in significant changes in the results of the study. Further description of this approach will be included in the report.</p> <p>To meet the 1995 MOEE / GO Transit Protocol guidance, the vibration points of reception should have been placed to be 5 to 10 meters from the building façade. As the assessment is a change assessment, as long as the vibration point of reception is chosen to be the same in both the pre-project scenario and post-project scenario, this would have no impact on the result for most cases.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI to document that a conservative approach was taken in the placement of OLAs in order to expedite an analysis of the 250m km of track work. 5 metre noise barriers were assumed for mitigation at the edge of the rail right-of way.</p> <p>RWDI to document that a sensitivity analysis was completed to confirm that the assessment met the intent of the 1995 MOE/GO Transit Protocol and as justification for the deviation. Metrolinx to provide the Sensitivity Analysis to MOECC.</p>
67	Noise and Vibration – Stouffville Corridor	Assessment Scenarios: a future no-build scenario was assessed in the noise report. In accordance with the applicable MOEE / GO Transit Protocol dated January 1995, there are two assessment scenarios; namely Pre-Project (includes ambient sound level and existing rail service) and GO Transit Project. The assessment of noise and vibration impacts should be based on the two assessment scenarios included in the 1995 Protocol.	The evaluation of the GO Rail Network Electrification is the assessment to be evaluated as part of the TPAP process, which followed the 1995 MOEE / GO Transit Protocol. In the terms described in the 1995 Protocol, the pre-project is defined as the existing rail operations, the post-project is defined as the 15-minute RER service with electrification. The evaluation of the “Future No-Build” (or Diesel RER) scenario was included for information purposes only.
68	Noise and Vibration – Stouffville Corridor	Prediction of Road Traffic Noise: the RLS-90 algorithm implemented in CadnaA software was used for prediction of road traffic noise. This model is not approved by the MOECC. Prediction of road traffic noise shall be carried out using the ORNAMENT algorithm / STAMSON software.	Spot checks have been conducted to verify that the RLS-90 model produces similar results to the ORNAMENT algorithm. Nonetheless, the modelling will be updated to use a spreadsheet implementation of the ORNAMENT algorithm.
69	Noise and Vibration – Stouffville Corridor	Prediction of Rail Traffic Noise: the FTA algorithm implemented in CadnaA software was used for prediction of rail traffic noise. This model is not yet approved by the MOECC. These predictions should be verified at representative receptor locations using the FTA software.	<p>In lieu of the Sound from Trains Environmental Analysis Method (STEAM) model, the more complex American Federal Transit Administration Federal Noise and Vibration Impact Assessment model implemented in Cadna/A was used.</p> <p>The Cadna/A implementation provides a more detailed analysis by incorporating things such as varying speed and throttle settings, curves, parallel and intervening tracks which are not easily assessed using the STEAM model.</p> <p>Metrolinx has requested from the MOECC permission to use FTA/FRA implementations in CADNA/A via a letter, RE: Noise Modeling for Go Expansion and Rapid Transit, dated June 8, 2016. A copy of this letter is attached. This modelling approach has previously been accepted by the MOECC on Metrolinx projects and consistency is desirable for comparison between projects. The impetus behind using FTA/FRA is that the FTA/FRA algorithms allow more refined prediction in areas where there are complex geometries that cannot be adequately described by the more simplistic STEAM model that is approved by the MOECC.</p> <p>A simplified modelling scenario (i.e. single straight track with constant speed and throttle setting) will be generated to compare the Cadna/A implementation of the FTA/FRA algorithms to an excel spreadsheet implementation of the FTA/FRA algorithms.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>MOECC advised that it accepts use of the FTA software; however verification is needed at representative receptor locations. RWDI/Metrolinx confirmed that the verification exercise was completed and will provide the verification table to MOECC and include this in the reports.</p>
70	Noise and Vibration – Stouffville Corridor	Existing Vibration Levels: these levels were predicted at five receptor locations. Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses since GO, VIA and CN trains are currently travelling along the rail corridor. Future vibration levels can be predicted using the FTA Manual (2012).	<p>Existing vibrations levels for GO, passenger trains and freight were measured at locations along the rail corridor. These vibrations levels were used to calibrate the vibration model by selecting appropriate adjustment factors considered by the FTA vibration calculations. The impact assessment is an evaluation of change between the pre-project and post-project scenarios. One method (i.e. modelling) was chosen to evaluate both scenarios to ensure consistency. Subtracting measured levels from modelled future levels inherently introduces an additional source of uncertainty into the calculation. Modelled existing vibration levels were evaluated against modelled future vibration levels, as opposed to measured existing vibration levels against modelled future vibration level because the project has not yet been built. Metrolinx believes that this is an appropriate approach.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI clarified that a limited number of relevant representative receptor locations were used (amongst hundreds of other across all of the corridors). MOECC advised that this methodology is not easily defensible.</p> <p>Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a commitment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.</p>
71	Noise and Vibration – Stouffville Corridor	Vibration Receptors: five receptors were selected for the vibration impact assessment. More receptors should be selected to represent the vibration sensitive land uses along the entire length of the rail corridor. The selected receptors should include the existing buildings, planned buildings and vacant lots, where applicable. The selected receptors should address the vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol. The selected receptors can also address the vibration impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual.	<p>As vibration is assessed based on a single pass-by event, increases in rail traffic volumes do not increase the assessed vibration levels. Vibration levels are therefore only increased by moving the source of vibration closer to the receptor, or introducing new sources of vibration (i.e. switches). Consequently, vibration levels are only evaluated in areas where new track will be laid closer to receptors or new switches will be installed. Therefore, vibration receptor locations are not required along the entire length of the rail, but just in areas where there is new track or switches.</p> <p>The reporting shows only worst-case representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. Most impacted receptors are located in areas of special track work, where the area of influence is much larger than the small areas of influence seen by moving tracks closer to a receptor.</p> <p>Vibration impacts due to construction was evaluated against structural damage and perceptibility limits. As construction could occur at any location along the rail corridor, it was assumed that the sensitive receptors would be located in close proximity. For this reason, distance setbacks were recommended to ensure that vibrations construction damage and perceptibility levels were not exceeded.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>RWDI/Metrolinx confirmed that approved development information was requested from the various municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment.</p> <p>Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
72	Noise and Vibration – Stouffville Corridor	Vibration Control Measures: three different alternative control measures (ballast mats, under sleeper pads, or resilient fixation) were recommended for three of the five receptor locations where vibration levels were predicted to exceed the applicable limits. Specific vibration control measures should be recommended for all affected locations. Furthermore, figures should be provided to clearly show the locations and extents of the recommended vibration control measures.	<p>The GO Rail Network Electrification TPAP vibration study identifies areas where vibration mitigation will be considered as well as options for mitigating increased vibration levels. Vibration mitigation solutions can include but are not limited to, ballast mats, under sleeper pads or resilient fixation. The Noise and Vibration Impact Assessment is a preliminary evaluation that will be refined during detailed design. The type of vibration mitigation has not been determined. This will be reviewed further during detailed design.</p> <p>Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design.</p>
73	Noise and Vibration – Stouffville Corridor	Table 1: eighty six noise and vibration receptors are listed in Table 1. It is preferred if these receptors are categorized by the different rail sections listed in Tables 2a and 2b.	Table 1 will be updated to show the different rail sections listed in Tables 2a and 2b. This will be done for all reports in Appendix G.
74	Noise and Vibration – Stouffville Corridor	Tables 7a and 7b: the titles of these tables indicate that the investigated noise barriers are technically feasible whereas the title of the last column in these tables indicates technical infeasibility. This contradiction should be explained.	The titles for Table 7a and Table 7b will be updated for clarity. This will be done for all reports in Appendix G.
75	Noise and Vibration – Stouffville Corridor	Figure 1a: this figure shows the locations of the GO Stations and Traction Power Facilities. This figure should also show the locations of the layover sites and maintenance facilities.	The locations of the Layover Sites will be added to Figure 1. Where applicable, this will be done for all reports in Appendix G.
76	Noise and Vibration – Stouffville Corridor	Figures 2a to 2n: these figures show the locations of the noise and vibration receptors. The receptors should represent all the noise and vibration sensitive land uses that are existing and planned for future construction, as well as vacant lots, where applicable.	<p>A detailed analysis was completed to ensure that results for the worst-case and representative receptors were included in detail in the reports.</p> <p>The reporting shows only representative receptors, in locations where impacts are anticipated. The entirety of each corridor was examined to determine where impacts could occur. In general, for areas where a new track is installed adjacent to an existing track without special track work, the area where there is more than a 25% increase in vibration level doesn't extend further than a few meters from the rail right of way. Most impacted receptors are located in areas of special track work, where the area of influence is much larger.</p> <p>As per the 1995 MOEE / GO Transit Protocol, noise and vibration impacts must be evaluated at lands which have been committed for sensitive land uses. Committed uses include uses such as: existing development, approved site plans, approved condominium plans or draft approved plans of subdivision.</p> <p>In order to address the point raised by MOECC regarding the need to incorporate sensitive land uses that are existing or planned for future construction, we sent out data requests to each relevant municipality. Where we received the requested data, we have converted the data provided to GIS and taken a closer look at what data we can and can't use. Generally speaking, most of the data cannot be used for the intended purpose of identifying and assessing future noise receptors (residences) because it does not clearly distinguish between commercial and residential development. Where the distinction is clear, we would require site plans to be able to locate the receptors properly – in order to conduct an assessment without overestimating or underestimating potential noise impacts, information is required on precisely where the receptor will be. This can generally only be done where there is a Site Plan available.</p> <p>The available approved land use information falls into one of three categories:</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>7. An approved future development is identified, but it is not clear whether it is residential or commercial, and no Site Plan was provided;</p> <p>8. An approved future development is identified as a residential project, but no Site Plan was provided; or</p> <p>9. An approved future development is identified as a residential project and a Site Plan was provided.</p> <p>Where possible, we will incorporate and address new information that identifies future developments and potentially new receptors that may be impacted by noise from future train traffic. Future developments could be considered receptors where they meet the definition of a noise-sensitive receptor; most often these are residences. Commercial developments are not considered noise-sensitive receptors.</p> <p>D. We will use available information to identify future developments that are adjacent to rail corridors. Where we have information on future residential developments with a Site Plan provided (category 3), we will include them as receptors in the analysis of noise impacts and potential mitigation.</p> <p>For cases where a Site Plan was not provided (categories 1 and 2), we will not include the properties as receptors in the analysis. To identify the potential that these developments may need to be considered as receptors in future (e.g., during detailed design of noise mitigation), we will conduct a screening-level analysis and include – in an appendix to the report for each corridor – information in tabular and/or graphical format that indicates the locations of these land parcels, whether they would be protected by noise barriers already proposed, and if not, whether there is a potential for noise impacts on these future developments adjacent to the rail corridor to warrant further mitigation investigation. This may be done by indicating a setback distance from the Metrolinx rail ROW where impacts might warrant investigation of noise mitigation. This information will allow for screening of these future developments to identify those that may need to be examined in more detail at a later date.</p> <p><u>Post-August 16, 2017 MOECC Response and Details:</u></p> <p>Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities.</p> <p>Please also refer to Comment responses #71 above.</p>
77	Noise and Vibration – Stouffville Corridor	Appendix F: this appendix includes sample vibration calculations. Sample noise calculations should also be included.	A sample Cadna/A calculations will be provided.
78	Noise and Vibration – Stouffville Corridor	Appendix G: this appendix lists the noise-bylaws in three municipalities. Reference should also be made to the specific noise and vibration bylaws pertaining to construction, where applicable.	The by-laws listed only pertain to construction noise and vibration.
79	General Environmental Planning Comments	Please add the following contact to the Master Stakeholder List in Appendix L1 under Provincial Review Agencies: Mr. Trevor Bell, Environmental Planner and EA Coordinator, Central Region Technical Support Section, Ministry of the Environment and Climate Change. Tel.: (416) 326-3577 Email: trevor.bell@ontario.ca	We have added this contact to the master project contact list per your request.
80	General Environmental Planning Comments	The Provincial Policy Statement (2014) contains policies that protect Ontario’s natural heritage and water resources, including designated vulnerable areas mapped in source water protection assessment reports under the Clean Water Act (CWA). Applicable policies should be referenced	Applicable Provincial Policy Statement (2014) provisions will be referenced in the revised EPR Volume 1 and Groundwater sections within revised EPR Volume 3 (to be added as new sections to address MOECC Comment #11 above).

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		in the Draft EPR, and the proponent should demonstrate how the proposed project is consistent with these policies. Assessment reports can be found on the Conservation Ontario website at: http://www.conservation-ontario.on.ca/uncategorised/143-otherswpreionsindex .	
81	General Environmental Planning Comments	Please include a section in the report on Source Water Protection. As part of the project, the proponent should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed, whether there were any source protection plan policies that applied, and if so, how they impacted the project, as well as identify mitigating measures to address any negative environmental impacts to those sources (considering natural, economic and social/cultural environmental impacts). In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: http://www.applications.ene.gov.on.ca/swp/en/index.php . The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area. For further information on the maps or source protection plan policies which may relate to their project, proponents should contact the Project Manager for Drinking Water Source Protection at the local source protection authority (i.e., conservation authority).	A section on Source Water Protection will be added to the EPR.
82	General Environmental Planning Comments	<p>It is the Ministry of the Environment and Climate Change’s expectation that an EPR submitted to the Ministry for approval should provide a clear and detailed explanation of the environmental planning and decision-making process followed to arrive at the conclusions which support the selection of the preferred undertaking. Any interested person reading the EPR should be able to easily follow the process used by the proponent in determining the preferred undertaking, including the rationale for making certain choices and the analytical tools or information that were used to support the decision making process. Clarity, simplicity, completeness and precision are the objectives proponents should strive for when preparing an EPR.</p> <p>The Transit Project Assessment Process (TPAP) should be open and transparent. This is to ensure that any interested person will be able to follow the process through its various stages of planning and decision making until a preferred undertaking is selected. Anyone should be able to trace the results of the TPAP, using the evaluation approaches and methodology that support the decision making process. Means of achieving transparency can include, but are not limited to:</p> <ul style="list-style-type: none">• Using appropriate, well-established and easily understood evaluation methods;• Making the process clear, transparent and logical;• Sharing complete information with all interested persons to support conclusions and recommendations at each phase in the TPAP; and,• Documenting the process in an easy to understand language which clearly explains the rationale for making certain choices and decisions. <p>It is also the Ministry of the Environment and Climate Change’s expectation that proponents provide sufficient information about the potential environmental effects (both positive and negative) of a proposed undertaking in order to demonstrate that the proposed undertaking achieves environmental protection.</p> <p>Proponents should prepare technical studies using the best available data; carefully select their assessment and evaluation methods to analyze their proposal; and, use sound scientific, engineering and planning practices in the preparation of an EPR.</p>	<p>Comment noted. Volume 1, Sections 1.3, 1.6, 1.7 of the Draft EPR provides a summary of the planning studies that provided the basis for informing the decision for the preferred undertaking.</p> <p>Volume 3 of the Draft EPR provides a detailed assessment of the positive and negative potential environmental effects of the project as well as descriptions of the mitigation measures proposed to minimize or mitigate any potential adverse effects.</p> <p>Scientific, engineering and planning practices were applied as part of preparing the EPR and 12 technical studies were completed in support of the EPR which have been included as Appendices.</p> <p>Consultation with regulatory agencies, Indigenous communities, the public, property owners and other potentially affected persons was undertaken by Metrolinx and Hydro One throughout the Pre-Planning and TPAP phases of the project. A detailed summary of the consultation activities carried out and the results/outcomes of the consultation efforts is provided in Volume 4 of the EPR.</p> <p>A combination of previous studies, published data and field work were utilized as part of carrying out the 12 technical studies for the electrification project which contain analyses of the proposed project infrastructure on various aspects of the social, cultural, built and natural environment.</p> <p>The EPR has been prepared based on the requirements as set out in O. Reg. 231/08.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>Consultation with the regulatory agencies, Aboriginal communities and potentially affected persons may assist the proponent in selecting appropriate analytical tools or information to be included in the planning process.</p> <p>Proponents should be aware that while available and published data can be used in the earlier steps in the TPAP, it is expected that there will be a transition to original field work, surveys, studies and reports for analysis and evaluation in the later stages. The level of detail will increase as the TPAP proceeds.</p> <p>Each EPR is unique. As a result, the level of detail of required information will vary by undertaking or the stage in the planning process. The appropriate level of detail depends on a number of factors, such as the number of approvals required; the nature and complexity of the proposed undertaking; the potential for environmental effects; and the level of public interest. The level of detail presented in an EPR should be sufficient to fulfil the requirements of the Transit Projects Regulation and assure regulatory agencies, Aboriginal communities and potentially affected persons that the proposed undertaking is technically feasible, achieves environmental protection and address the problem or opportunity that prompted the TPAP.</p>	
83	General Environmental Planning Comments – Climate Change	<p>Metrolinx should give consideration in the EPR to the effects of climate change as part of its assessment for the proposed project and what can be done to lesson any potential risks. This may include:</p> <ul style="list-style-type: none">• Considering any effects on the study area / local environment that would reduce the natural environment’s ability to remove carbon from the atmosphere;• Considering the consequences that a changing climate could have for the project and its proposed facilities (e.g. stormwater management works) and its environmental effects, both in the present and in the future.	<p>Potential effects of climate change on the project are provided within section 9.13 in Volume 3 of the EPR, including considerations of the impacts of extreme weather on the operation and maintenance of the proposed electrification infrastructure. Potential project design adaptations to deal with changing climate conditions are discussed.</p> <p>The potential effects of the project on climate change are discussed within section 9.14 in Volume 3 of the EPR.</p>
84	Cultural Heritage Impacts	<p>As mentioned throughout the EPR, Cultural Heritage Properties and resources may be impacted as a result of the undertaking. Many studies, including Heritage Impact Assessments, are documented as proposed during detailed design. Please confirm with the Ministry of Tourism, Culture and Sport that Metrolinx’s proposed approach to Cultural Heritage and Archaeological Resources is acceptable. Please ensure written sign off by MTCS is provided before proceeding with the TPAP.</p>	<p>A phone conversation between Metrolinx and MOECC was held on March 7, 2017, clarifying that by "MTCS sign off" means for Metrolinx to receive MTCS feedback on the Draft EPR and confirm that MTCS has an understanding of the proposed undertaking and has no objections. As noted, we will continue to work with MTCS throughout the project and will be providing responses to their comments on the Draft EPR.</p>
85	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg iii – first paragraph ‘which term which includes its text, tables, figures and appendices) has been prepared by Gannett Fleming Transit and Rail Systems’- please revise wording	<p>Grammar/punctuation will be updated/corrected in the EPR.</p>
86	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg xxviii –grounding system line needs to be adjusted- line break between ‘grounding’ and ‘system’	<p>Grammar/punctuation will be updated/corrected in the EPR.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
87	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Discrepancy between Pg xiii & pg 8, Appendix B description – please keep consistent	Grammar/punctuation will be updated/corrected in the EPR.
88	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 10, Appendix S – sentence should end with ‘included for reference’ (for is missing).	Grammar/punctuation will be updated/corrected in the EPR.
89	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 53, 3.6.1 (second dot point) – ‘but can be insulated in locations where space’ – assume this is meant to say insulated?	Grammar/punctuation will be updated/corrected in the EPR.
90	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 66: ‘In order to install OCS though the limits of the train shed safely, safe clearances to the trains below the OCS must be maintained as well as to the structural elements of the train shed above the wires’. (Is this supposed to read “through”?)	Grammar/punctuation will be updated/corrected in the EPR.
91	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 68: ‘Installation of supports in the vents will most likely done using treaded stub inserts and bolting attachment assemblies to them’. (Likely be done?)	Grammar/punctuation will be updated/corrected in the EPR.
92	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 71, 3.6.2.8 – ‘see Figure 3-25’ not hyperlinked	Grammar/punctuation will be updated/corrected in the EPR.
93	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 74: ‘A series of conceptual plans were prepared depicting the Vegetation Clearing Zone for each corridor and have been included as Appendix N to this EPR. See Error! Reference source not found..’	Grammar/punctuation will be updated/corrected in the EPR.
94	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 78, 3.6.6.1 paragraph one and two – Figure 3 30 not hyperlinked.	Grammar/punctuation will be updated/corrected in the EPR.
95	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 79, 3.6.6.2 & 3.6.6.3, Figure 3-31 not hyperlinked	Grammar/punctuation will be updated/corrected in the EPR.
96	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 96, 3.6.12.4 ...”and is current a vacant lot with active agriculture” – should read currently?	Grammar/punctuation will be updated/corrected in the EPR.
97	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 136, paragraph 1 – ‘As expressed by the City of Toronto (bridge owner) during a coordination meeting on August 5, 2016, the existing modular truss superstructure is considered “temporary” and is not capable of accommodating the required the protective barrier,’-remove second “the”.	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
98	Volume 1 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 139, paragraph 1 - ‘As expressed by the City of Toronto (bridge owner) during a coordination meeting on August 5, 2016, the existing modular truss superstructure is considered “temporary” and is not capable of accommodating the required the protective barrier,’ -remove second “the”.	Grammar/punctuation will be updated/corrected in the EPR.
99	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lix, Archaeology – ‘Only 1 haof the corridor ...’ –typo	Grammar/punctuation will be updated/corrected in the EPR.
100	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lx, Air Quality- ‘Using the three Air Quality classifications discussed above, USRC was classified as Urban’ – typo	Grammar/punctuation will be updated/corrected in the EPR.
101	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lxxx, paragraph 1 ‘Utilities on or near the site include ... gas mains, aind communication infrastructure. –typo	Grammar/punctuation will be updated/corrected in the EPR.
102	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg civ, Don Yard PS, paragraph 1 ‘Additionally, the route of the planned Broadview Avenue extension may me located in the vicinity of the Don Yard PS site’. -typo.	Grammar/punctuation will be updated/corrected in the EPR.
103	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg cvi, Cultural Heritage ‘and CHERs are recommend for seven (7) structures:’ -typo.	Grammar/punctuation will be updated/corrected in the EPR.
104	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg cxiii, Utilities ‘The impact assessment stage will determine the potential conflicts between the projectand any identified utilities in the corridor’. –typo.	Grammar/punctuation will be updated/corrected in the EPR.
105	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 25, 1.5.1.2 Aquatic – missing full stop at end of 1st paragraph.	Grammar/punctuation will be updated/corrected in the EPR.
106	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 27, 1.5.2.2 Corridor Preliminary Environmental Site Assessment Study -‘However there are some locations were a portion of the OCS Impact Zone...’. –typo	Grammar/punctuation will be updated/corrected in the EPR.
107	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 30, 1.5.4 Archaeology- ‘This analysis included a systematic review of the Study Area in order to indicate where archaeological assessments have been completed and were they may be required’. -typo.	Grammar/punctuation will be updated/corrected in the EPR.
108	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 31, 1.5.5 Land Use and Socio-Economic- ‘Given the vast geographic area covered by the Study Area, ...spatial data/GIS mapping layers to described baseline conditions...’. -typo.	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
109	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 43, first sentence ‘located within the Deciduous Forest Region ad contains remnants of Carolinian forests’. -typo.	Grammar/punctuation will be updated/corrected in the EPR.
110	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 73, paragraph 3 ‘Lornewood Creek is small watercourse with some minor habitat alternations’. – typo- should say Creek is a small watercourse.	Grammar/punctuation will be updated/corrected in the EPR.
111	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 82, 3.2 Preliminary Environmental Site Assessment, paragraph 2- ‘The location of identified issues, if any, are indicated on Error! Reference source not found. to Figure 3-6’. -Clear typo.	Grammar/punctuation will be updated/corrected in the EPR.
112	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 84, Figure 3-5 ‘Potential Source of Contamination at Proposed Mimico SWS Site Location’ missing from table of contents	Grammar/punctuation will be updated/corrected in the EPR.
113	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 85, Figure 3-6 ‘Potential of Contamination at Proposed Oakville SWS Site Location’ missing from table of contents.	Grammar/punctuation will be updated/corrected in the EPR.
114	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 85, 3.2.6 Lakeshore West Corridor- ‘Approximately 37 km of this corridor have not been subject of site assessment, further information on the gap analysis is provided in Appendix B’ sentence doesn’t read correct.	Grammar/punctuation will be updated/corrected in the EPR.
115	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 86 ‘Figure 3-7 Lakeshore West Corridor Contamination Overview Map’ Table of Contents shows Figure 3-7 as Potential Sources of Contamination at Proposed Mimico SWS Site Location’	Grammar/punctuation will be updated/corrected in the EPR.
116	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 87, point 4 ‘High lead concentrations in soil from BH19-21 was identified such soils at this location would be considered hazardous waste (based on TCLP testing) for the purposes of transportation and disposal.’ Sentence doesn’t read correctly.	Grammar/punctuation will be updated/corrected in the EPR.
117	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 87, paragraph 2 ‘If suspect material not tested as part of this investigation is identified during any activity along the rail corridor a qualified consultant should be contacted to understand the nature of the impact prior to proceeding’. Sentence doesn’t read correctly.	Grammar/punctuation will be updated/corrected in the EPR.
118	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 98, 3.4.11 Corridor & Bridges, paragraph 3, ‘This section has been subject to at least at least...’ -duplication.	Grammar/punctuation will be updated/corrected in the EPR.
119	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 101, Figure 3-8 Existing Land Use at the Proposed Burlington TPS Site (Parking Lot) Table of Contents shows Figure 3-8 as Potential Sources of Contamination at proposed Oakville SWS Site Location.	The Table of Contents will be updated as/if required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
120	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 102, Figure 3-9 Existing Land Use at the Proposed Burlington TPS Site (Driveway to Burlington Tap Site) Table of Contents shows Figure 3-9 as Lakeshore West Corridor Contamination Overview Map.	Table of Contents will be revised to include correct figure references.
121	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 104, Figure 3-10 Existing Land Use at the Proposed Mimico SWS Site (Northeast of Site, Facing Southwest) Table of Contents shows Figure 3-10 as Existing Land Use at the Proposed Burlington TPS Site (Parking Lot)	The Table of Contents will be updated as/if required.
122	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 105, Figure 3-11 Existing Land Use at the Proposed Mimico SWS Site (East of Site, Facing West) Table of Contents shows Figure 3-11 as Existing Land Use at the Proposed Burlington TPS Site (Driveway to Burlington Tap Site)	The Table of Contents will be updated as/if required.
123	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 106, Figure 3-12 Existing Land Use at the Proposed Mimico SWS Site (Industrial/Commercial Land Uses Surrounding the Site) Table of Contents shows Figure 3-12 as Existing Land Use at the Proposed Mimico SWS Site (Northeast of Site, Facing Southwest)	The Table of Contents will be updated as/if required.
124	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 108, Figure 3-13 Existing Land Use at the Proposed Oakville SWS Site (North of Site, Facing Southwest) Table of Contents shows Figure 3-13 as Existing Land Use at the Proposed Mimico SWS Site (East of Site, Facing West)	The Table of Contents will be updated as/if required.
125	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 109, Figure 3-14 Existing Land Use at the Proposed Oakville SWS Site (Northeast of Site, Facing Southwest) Table of Contents shows Figure 3-13 as Existing Land Use at the Proposed Mimico SWS Site (East of Site, Facing West)	The Table of Contents will be updated as/if required.
126	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 113, paragraph 2 ‘There are no sensitive receptor facilities are within 40 m of the rail corridor’ -Sentence doesn’t read correctly.	Grammar will be corrected.
127	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 122, Figure 3-15 LSW Corridor Receptor and Existing Barrier Locations 1 – Table of Contents shows Figure 3-15 as Existing Land Use at the Proposed Oakville SWS Site (North of Site, Facing Southwest)	The Table of Contents will be updated as/if required.
128	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 123, Figure 3-16 LSW Corridor Receptor and Existing Barrier Locations 2 – Table of Contents shows Figure 3-16 as Existing Land Use at the Proposed Oakville SWS Site (Northeast of Site, Facing Southwest)	The Table of Contents will be updated as/if required.
129	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 123, Figure 3-17 LSW Corridor Receptor and Existing Barrier Locations 3 – Table of Contents shows Figure 3-17 as LSW Corridor Receptor and Existing Barrier Locations 1	The Table of Contents will be updated as/if required.
130	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 124, Figure 3-18 LSW Corridor Receptor and Existing Barrier Locations 4 – Table of Contents shows Figure 3-18 as LSW Corridor Receptor and Existing Barrier Locations 2	The Table of Contents will be updated as/if required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
131	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 124, Figure 3-19 LSW Corridor Receptor and Existing Barrier Locations 5 - Table of Contents shows Figure 3-19 as LSW Corridor Receptor and Existing Barrier Locations 3	The Table of Contents will be updated as/if required.
132	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 125, Figure 3-20 LSW Corridor Receptor and Existing Barrier Locations 6 – Table of Contents shows Figure 3-20 as LSW Corridor Receptor and Existing Barrier Locations 4	The Table of Contents will be updated as/if required.
133	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 125, Figure 3-21 LSW Corridor Receptor and Existing Barrier Locations 7 - Table of Contents shows Figure 3-21 as LSW Corridor Receptor and Existing Barrier Locations 5	The Table of Contents will be updated as/if required.
134	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 126, Figure 3-22 LSW Corridor Receptor and Existing Barrier Locations 8 – Table of Contents shows Figure 3-22 as LSW Corridor Receptor and Existing Barrier Locations 6	The Table of Contents will be updated as/if required.
135	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 126, Figure 3-23 LSW Corridor Receptor and Existing Barrier Locations 9 - Table of Contents shows Figure 3-23 as LSW Corridor Receptor and Existing Barrier Locations 7	The Table of Contents will be updated as/if required.
136	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 128, Figure 3-24 Proposed Site of Burlington Tap Location and TPS on Cumberland Avenue – Table of Contents shows Figure 3-24 as LSW Corridor Receptor and Existing Barrier Locations 8	The Table of Contents will be updated as/if required.
137	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 128, last paragraph need to bring line up (Hydro One Manby Transformer Station)	Grammar will be reviewed.
138	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 130, Figure 3-25 View of High Rise Buildings and Rail Corridor looking West from Strachan Avenue Bridge – Table of Contents shows Figure 3-25 as LSW Corridor Receptor and Existing Barrier Locations 9	The Table of Contents will be updated as/if required.
139	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 131 Figure 3-26 Dufferin Street Bridge looking North and Residential Buildings overlooking the Track – Table of Contents shows Figure 3-26 as Proposed Site of Burlington Tap Location and TPS on Cumberland Avenue	The Table of Contents will be updated as/if required.
140	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 132, Figure 3-27: View of Railroad to the Left and Lakeshore to the Right across Gardiner Expressway and Lake Shore Boulevard West – Table of Contents shows Figure 3-27 as View of High Rise Buildings and Rail Corridor looking West from Strachan Avenue Bridge	The Table of Contents will be updated as/if required.
141	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 133, Figure 3-28: Mimico Station looking South with Residential Building Beyond – Table of Contents shows Figure 3-28 as Dufferin Street Bridge looking North and Residential Buildings overlooking the Track	The Table of Contents will be updated as/if required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
142	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 134, Figure 3-29 Residential Buildings under Construction at 24th Street – Table of Contents shows Figure 3-29 as View of Railroad to the Left and Lakeshore to the Right across Gardiner Expressway and Lake Shore Boulevard West	The Table of Contents will be updated as/if required.
143	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 135, Figure 3-30 View from Islington Avenue Bridge looking East towards Downtown Toronto – Table of Contents shows Figure 3-30 as Mimico Station looking South with Residential Building Beyond	The Table of Contents will be updated as/if required.
144	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 136, Figure 3-31 Long Branch Station Parking – Table of Contents shows Figure 3-31 as Residential Buildings under Construction at 24th Street	The Table of Contents will be updated as/if required.
145	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 136, paragraph 1 ‘Views to and from these golf course are mostly screened by vegetation’. –typo- change to courses.	Typo will be fixed.
146	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 137, Figure 3-32 Railroad Bridge over Etobicoke Creek and Recreational Trail – Table of Contents shows Figure 3-32 as View from Islington Avenue Bridge looking East towards Downtown Toronto	The Table of Contents will be updated as/if required.
147	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 137, Figure 3-33 Transmission Lines in Open Space Corridor from Haig Boulevard Crossing looking West – Table of Contents shows Figure 3-33 as Long Branch Station Parking	The Table of Contents will be updated as/if required.
148	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 138, Figure 3-34 Port Credit GO Station Parking Lot Looking North to the Railway Tracks – Table of Contents shows Figure 3-34 as Railroad Bridge over Etobicoke Creek and Recreational Trail	The Table of Contents will be updated as/if required.
149	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 139, Figure 3-35 Homes on Queen St W with Back Yards as Close as Three Metres to the Rail Right-of-Way – Table of Contents shows Figure 3-35 as Transmission Lines in Open Space Corridor from Haig Boulevard Crossing looking West	The Table of Contents will be updated as/if required.
150	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 140, Figure 3-36 Mid-Rise and Low Rise Residential at Walden Circle with Railroad to the Left – Table of Contents shows Figure 3-36 as Port Credit GO Station Parking Lot Looking North to the Railway Tracks	The Table of Contents will be updated as/if required.
151	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 141, Figure 3-37 View of Credit River Railroad Crossing looking North from Lakeshore Road West – Table of Contents shows Figure 3-37 as Homes on Queen St W with Back Yards as Close as Three Metres to the Rail Right-of-Way	The Table of Contents will be updated as/if required.
152	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 142, Figure 3-38 Housing on Bromsgrove Road looking South to Track showing Right-of-Way Fence – Table of Contents shows Figure 3-38 as Figure 3-36 Mid-Rise and Low Rise Residential at Walden Circle with Railroad to the Left	The Table of Contents will be updated as/if required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
153	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 143, Figure 3-39 Clarkson GO Station from Parking Lot looking West to Garage – Table of Contents shows Figure 3-39 as View of Credit River Railroad Crossing looking North from Lakeshore Road West	The Table of Contents will be updated as/if required.
154	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 144, Figure 3-40 Residential Buildings close to Tracks near Oakville Station, View from Old Mill Road with Railroad to Right – Table of Contents shows Figure 3-40 as Housing on Bromsgrove Road looking South to Track showing Right-of-Way Fence	The Table of Contents will be updated as/if required.
155	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 145, Figure 3-41 Rail Viaduct across Sixteen Mile Creek from looking North from Cornwall Road Bridge – Table of Contents shows Figure 3-41 as Clarkson GO Station from Parking Lot looking West to Garage	The Table of Contents will be updated as/if required.
156	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 146, Figure 3-42 Oakville GO Station Parking Garage Looking towards Rail Corridor from Trafalgar Road – Table of Contents shows Figure 3-42 as Residential Buildings close to Tracks near Oakville Station, View from Old Mill Road with Railroad to Right	The Table of Contents will be updated as/if required.
157	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 147, Figure 3-43 Pedestrian Bridge Connecting Drury Lane and Orpha Street across Rail Corridor – Table of Contents shows Figure 3-43 as Rail Viaduct across Sixteen Mile Creek from looking North from Cornwall Road Bridge	The Table of Contents will be updated as/if required.
158	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 161, Figure 3-44 ELF Sites in Lakeshore West – 3 Metres from Centre of Track in relation to Study Area – Table of Contents shows Figure 3-44 as Oakville GO Station Parking Garage Looking towards Rail Corridor from Trafalgar Road	The Table of Contents will be updated as/if required.
159	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Figure 3-45 Pedestrian Bridge Connecting Drury Lane and Orpha Street across Rail Corridor – Table of Contents link to Figure 3-45 takes you to Figure 3-43 Pedestrian Bridge Connecting Drury Lane and Orpha Street across Rail Corridor. No Figure 3-45 found in the document.	The Table of Contents will be updated as/if required.
160	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Figure 3-46 ELF Sites in Lakeshore West – 3 Metres from Centre of Track in relation to Study Area – Table of Contents link to Figure 3-46 takes you to Figure 3-44 ELF Sites in Lakeshore West – 3 Metres from Centre of Track in relation to Study Area. No Figure 3-46 found in the document	The Table of Contents will be updated as/if required.
161	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 195, 5.1.2 Allandale TPS – first sentence ends with two full stops	Grammar/punctuation will be updated/corrected in the EPR.
162	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 204 – almost entirely blank page	Formatting will be fixed.
163	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 220, 5.2 Preliminary Environmental Site Assessment, paragraph 2- ‘The location of identified issues, if any, are indicated on Error! Reference source not found’.	Table of Contents will be checked and updated as required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
164	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 221, Figure 5-5 Potential Sources of Contamination at Proposed Allandale TPS Site Location – missing completely from Table of Contents	Table of Contents will be checked and updated as required.
165	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 223, Figure 5-6 Potential Sources of Contamination at Proposed Newmarket SWS Site Location – Table of Contents shows Figure 5-6 as Potential Sources of Contamination at Proposed Allandale TPS Site Location	Table of Contents will be checked and updated as required.
166	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 224, Figure 5-7 Potential Sources of Contamination at Proposed Gilford PS Site Location – Table of Contents shows Figure 5-7 as Potential Sources of Contamination at Proposed Newmarket SWS Site Location	Table of Contents will be checked and updated as required.
167	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 225, Figure 5-8 Potential Sources of Contamination at Proposed Maple PS Site Location – Table of Contents shows Figure 5-8 as Potential Sources of Contamination at Proposed Gilford PS Site Location	Table of Contents will be checked and updated as required.
168	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 226, Figure 5-9 Barrie Corridor Contamination Overview Map – Table of Contents shows Figure 5-9 as Potential Sources of Contamination at Proposed Maple PS Site Location	Table of Contents will be checked and updated as required.
169	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 228 – bring Table 5-19 up from page 343 to eliminate empty page.	Formatting will be fixed.
170	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 248, Figure 5-10 Existing Land Use at the Proposed Allandale TPS Site (East of Site, Facing West) – Table of Contents shows Figure 5-10 as Barrie Corridor Contamination Overview Map	Table of Contents will be checked and updated as required.
171	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 250, Figure 5-11 Existing Land Use at the Proposed Newmarket SWS (Alt 6) Site (Southeast of Site, Facing North) – Table of Contents shows Figure 5-11 as Existing Land Use at the Proposed Allandale TPS Site (East of Site, Facing West)	Table of Contents will be checked and updated as required.
172	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 251, Figure 5-12 Existing Land Use at the Proposed Gilford PS Site (North of Site, Facing South) – Table of Contents shows Figure 5-12 as Existing Land Use at the Proposed Newmarket SWS (Alt 6) Site (Southeast of Site, Facing North)	Table of Contents will be checked and updated as required.
173	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 252, Figure 5-13 Existing Land Use at the Proposed Maple PS Site (East of Site, Facing Southwest) – Table of Contents shows Figure 5-13 as Existing Land Use at the Proposed Gilford PS Site (North of Site, Facing South)	Table of Contents will be checked and updated as required.
174	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 253, Figure 5-14 Existing Land Use at the Proposed Maple PS Site (Private Cemetery, Northeast of the Site) – Table of Contents shows Figure 5-14 as Existing Land Use at the Proposed Maple PS Site (East of Site, Facing Southwest)	Table of Contents will be checked and updated as required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
175	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Page 263, last paragraph ‘Table 5-31 through Table 5-33also show the applicable air quality criteria, which are the desirable maximum concentrations’.	Comment noted. Grammar/punctuation will be corrected in the EPR.
176	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 274, Figure 5-15 Barrie Corridor Receptor and Existing Barrier Locations 1 – Table of Contents shows Figure 5-15 as Existing Land Use at the Proposed Maple PS Site (Private Cemetery, Northeast of the Site)	Table of Contents will be checked and updated as required.
177	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 274, Figure 5-16 Barrie Corridor Receptor and Existing Barrier Locations 2 – Table of Contents shows Figure 5-16 as Barrie Corridor Receptor and Existing Barrier Locations 1	Table of Contents will be checked and updated as required.
178	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 275, Figure 5-17 Barrie Corridor Receptor and Existing Barrier Locations 3 – Table of Contents shows Figure 5-16 as Barrie Corridor Receptor and Existing Barrier Locations 2	Table of Contents will be checked and updated as required.
179	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 275, Figure 5-18 Barrie Corridor Receptor and Existing Barrier Locations 4 – Table of Contents shows Figure 5-18 as Barrie Corridor Receptor and Existing Barrier Locations 3	Table of Contents will be checked and updated as required.
180	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 276, Figure 5-19 Barrie Corridor Receptor and Existing Barrier Locations 5 – Table of Contents shows Figure 5-19 as Barrie Corridor Receptor and Existing Barrier Locations 4	Table of Contents will be checked and updated as required.
181	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 276, Figure 5-20 Barrie Corridor Receptor and Existing Barrier Locations 6 – Table of Contents shows Figure 5-20 as Barrie Corridor Receptor and Existing Barrier Locations 5	Table of Contents will be checked and updated as required.
182	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 277, Figure 5-21 Barrie Corridor Receptor and Existing Barrier Locations 7 – Table of Contents shows Figure 5-21 as Barrie Corridor Receptor and Existing Barrier Locations 6	Table of Contents will be checked and updated as required.
183	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 277, Figure 5-22 Barrie Corridor Receptor and Existing Barrier Locations 8 – Table of Contents shows Figure 5-22 as Barrie Corridor Receptor and Existing Barrier Locations 7	Table of Contents will be checked and updated as required.
184	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 278, Figure 5-23 Barrie Corridor Receptor and Existing Barrier Locations 9 – Table of Contents shows Figure 5-23 as Barrie Corridor Receptor and Existing Barrier Locations 8	Table of Contents will be checked and updated as required.
185	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 278, Figure 5-24 Barrie Corridor Receptor and Existing Barrier Locations 10 – Table of Contents shows Figure 5-24 as Barrie Corridor Receptor and Existing Barrier Locations 9	Table of Contents will be checked and updated as required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
186	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 279, Figure 5-25 Barrie Corridor Receptor and Existing Barrier Locations 11 – Table of Contents shows Figure 5-25 as Barrie Corridor Receptor and Existing Barrier Locations 10	Table of Contents will be checked and updated as required.
187	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 279, Figure 5-26 Barrie Corridor Receptor and Existing Barrier Locations 12 – Table of Contents shows Figure 5-26 as Barrie Corridor Receptor and Existing Barrier Locations 11	Table of Contents will be checked and updated as required.
188	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 280, Figure 5-27 Barrie Corridor Receptor and Existing Barrier Locations 13 – Table of Contents shows Figure 5-27 as Barrie Corridor Receptor and Existing Barrier Locations 12	Table of Contents will be checked and updated as required.
189	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 280, Figure 5-28 Barrie Corridor Receptor and Existing Barrier Locations 14 – Table of Contents shows Figure 5-28 as Barrie Corridor Receptor and Existing Barrier Locations 13	Table of Contents will be checked and updated as required.
190	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 281, Figure 5-29 Barrie Corridor Receptor and Existing Barrier Locations 15 – Table of Contents shows Figure 5-29 as Barrie Corridor Receptor and Existing Barrier Locations 14	Table of Contents will be checked and updated as required.
191	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 281, Figure 5-30 Barrie Corridor Receptor and Existing Barrier Locations 16 – Table of Contents shows Figure 5-30 as Barrie Corridor Receptor and Existing Barrier Locations 15	Table of Contents will be checked and updated as required.
192	Volume 2 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg 282, Figure 5-31 Barrie Corridor Receptor and Existing Barrier Locations 17 – Table of Contents shows Figure 5-31 as Barrie Corridor Receptor and Existing Barrier Locations 16	Table of Contents will be checked and updated as required.
193	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Throughout Document- inconsistent use of metres/m, Endangered Species Act/ESA, Project/project, Detailed Design Stage/design stage/detail design, etc. - please ensure consistency throughout document.	Acronyms will be checked within EPR and made consistent as much as possible.
194	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lxvi, Union GO Station Rail Corridor- “appropriate approval under the ESA, 2007...” –as three Acronyms for ESA are provided in the definitions, please define this as Endangered Species Act (2007) in this instance.	Acronyms will be checked within EPR and made consistent as much as possible.
195	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lxxiii, Barrie Corridor- “MH Biologists concluded that...” –as no definition provided for MH, please spell out (assume it is Morrison Hershfield)	“MH” will be deleted entirely.
196	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">Pg lxxi, Preliminary ESA- Again, as three ESA definitions are used in document, please spell out as Environmental Site Assessment in this instance.	Acronyms will be checked within EPR and made consistent as much as possible.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
197	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg. lxxiv, “The results of the HIAs will be included in the Final Draft EPR for MTCS information/review” – is this supposed to read “Final EPR”? please confirm and revise text.	Reference will be corrected.
198	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxi, Collateral Agreement – Union Station, “...Union Station Complex The Metrolinx Heritage...” –period missing	Punctuation will be fixed as required.
199	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxi, Collateral Agreement – Union Station, “approval from the MTCS will be required; ” – semicolon used unnecessarily- replace with period	Punctuation will be fixed as required.
200	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxii, Jointly Managed Heritage Resources, second bullet –“ Undertake Heritage Impact Assessment completed;” –bullet does not read properly	Bullet will be fixed.
201	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxvii, Union Station Rail Corridor “...City of Toronto is recommended to confirm this assessment. .” –sentence ends with two periods	Punctuation will be fixed as required.
202	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxviii, Kitchener Corridor- “...no foreseen negative impacts resulting from their siting. .” – sentence ends with two periods	Punctuation will be fixed as required.
203	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg lxxxix, fourth paragraph –“Presently the West Toronto Rail Path runs adjacent to the Barrie Corridor along the eastern side, an Environmental Assessment for an extension was recently approved.” -sentence doesn’t read correctly	Punctuation/grammar will be fixed as required.
204	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg c, Short Term Construction Phase Vibration – bullets are all inconsistent- some end with periods, some with semicolons, some with nothing- please ensure consistency	Punctuation will be fixed as required.
205	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg cvi, Traction Power Facility Sites – bullets are all inconsistent- some end with periods, some with semicolons, some with nothing- please ensure consistency	Punctuation will be fixed as required.
206	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 30, Bridges “. There are no land use effects...” –sentence begins with period and space- please revise	Punctuation will be fixed as required.
207	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 43- second image appears to be out of place- does not depict a view of platforms- please ensure it is supposed to be there	Image will be checked and updated as required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
208	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 65, Specific Mitigation Measures – USRC “As per Areas requiring special attention in relation to re-assessment of background EMI/EMF levels, as summarized in Table 3-14.” –sentence does not make sense	Grammar will be fixed as required.
209	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 65, Specific Mitigation Measures – USRC – the text following the above reads “Table 3-13, although table 3-14 is being spoken about- please ensure this is correct	Grammar will be fixed as required.
210	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 66, Vegetation Clearing Zone –both metres and m used throughout section- please ensure consistency	This will be checked for consistency as much as possible.
211	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 77, Impacts Related to TPF Vegetation Clearing “Figure 4-4 depicts that the footprint impacts associated with the Mimico Tap/TPS Location.” –extra word added or incomplete sentence- please revise text	Grammar/punctuation will be updated/corrected in the EPR.
212	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 104, last bullet on page “ Compliance with the Migratory Birds Convention Act (MBCA).Compliance with the Migratory Birds Convention Act (MBCA). ” –duplication	This will be corrected in the EPR.
213	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 159, second paragraph “The Credit River Bridge is directly associated with the GTR’s program...” –please define GTR (cannot find definition anywhere in document)	Will define acronym in the EPR.
214	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 180, Bridges- “A full listing of the bridges within the Lakeshore West Corridor is provided in Section 3 of Volume 1 of the EPR” –period at end of sentence missing	Grammar/punctuation will be updated/corrected in the EPR.
215	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 211, 4.10.2.1 Potential Effects and Mitigation Measures, “ The Mimico Tap/TPS (see Visual Impact Assessment Report) ” –please refer to which Appendix the Report is located.	Will add Appendix reference.
216	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 219, Bridges/Rail Overpasses “There are two road bridges which pass over the railroad in this section. SPACE There are two bridges which pass over the railroad in this section. –duplication and unnecessary line break	Grammar/punctuation will be updated/corrected in the EPR.
217	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 223, Mitigation recommendations- inconsistent formatting between first and second occurrence	Grammar/punctuation will be updated/corrected in the EPR.
218	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 233, Bridges/Rail Overpasses “Refer to Figure 4-38for a visualization...” –space between 4-38 and for	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
219	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 292- large space after 4.11.13.2 Net Effects- unnecessary – please move section 4.12 up to fill space	Grammar/punctuation will be updated/corrected in the EPR.
220	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 302, 4.13.1.1.2 Flow Analysis “The runoff for the 25mm storm was computed using equation 4.8 and 4.9 presented in the Stormwater Management Planning and Design manual by MOE (March 2003) ” –please refer to our Ministry as MOECC (even though it is understood that the ministry went by MOE in 2003). Could use “MOECC (previously the Ministry of the Environment) or something similar. This reference is used multiple times after this occurrence- please keep consistent	Will change all MOE references to MOECC throughout EPR.
221	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 304, 4.13.2.1.1 Drainage Areas “The existing drainage pattern is shown on SPACE Figure 4-42.” -page break between “on” and Figure 4-42 unnecessary	Grammar/punctuation will be updated/corrected in the EPR.
222	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 305, 4.13.2.1.2 Flow Analysis –period missing at end of sentence/page.	Grammar/punctuation will be updated/corrected in the EPR.
223	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 308, 2nd paragraph “A more refined flow analysis for the site drainage would be required at design stage. ” –should be changed to “detailed design stage”	Grammar/punctuation will be updated/corrected in the EPR.
224	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 352, 5.4.1.1 Potential Effects and Mitigation Measures, “ Archaeological potential as been removed. ” –typo as well as incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
225	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 356, 5.6.2.1 Potential Effects and Mitigation Measures “Air Quality – see EPR Volume 3 Section 5.7 as well as the Air Quality Assessment Report contained in Appendix F) ” –unnecessary bracket at end of bullet.	Grammar/punctuation will be updated/corrected in the EPR.
226	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 397, 5.13.1 Bramalea PS- page ends mid-sentence- please fix formatting	Grammar/punctuation will be updated/corrected in the EPR.
227	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 450 –no hyperlink to Table 6-17	Grammar/punctuation will be updated/corrected in the EPR.
228	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 525, 6.3.8 “A summary of impacts and mitigation measures is provided in Table 6-37and ... ” –space missing between Table 6-37 and “and”	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
229	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 602, OCS/Rail Corridors “Therefore, these areas are classified as negligible impact with no requires no mitigation. ” –sentence doesn’t read properly.	Grammar/punctuation will be updated/corrected in the EPR.
230	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 606, 6.10.12.2 Net Effects “ In addition, it is worth noting that ” –incomplete sentence.	Grammar/punctuation will be updated/corrected in the EPR.
231	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 612, first paragraph “ In addition, it is worth noting that ” –again, incomplete sentence.	Grammar/punctuation will be updated/corrected in the EPR.
232	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 687, “Results are summarized below in Error! Reference source not found.. ” –obvious error- please fix	Grammar/punctuation will be updated/corrected in the EPR.
233	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 696 “at the location shown on Figure 6-29 ” –space missing	Grammar/punctuation will be updated/corrected in the EPR.
234	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 742, third paragraph ends with “Designated Areas...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
235	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 762, space between 7.2.1.1 and 7.2.1.2 too large- please fix	Grammar/punctuation will be updated/corrected in the EPR.
236	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 823, 7.10.6.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
237	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 825, 7.10.7.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
238	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 830, 7.10.9.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
239	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 832, 7.10.10.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
240	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 833, 7.10.11.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
241	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 903, Impacts Related to TPF Vegetation Clearing “Vegetation removal areas for Don Yards PS are presented in Table 8-7. As depicted in... ” –incomplete sentence	Grammar/punctuation will be updated/corrected in the EPR.
242	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 939, Impacts Related to Bridge Modifications –extra bullet added with no text –please remove bullet	Grammar/punctuation will be updated/corrected in the EPR.
243	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1038, 8.10.8.2 Net Effects “In addition, it is worth noting that...” –incomplete sentence.	Grammar/punctuation will be updated/corrected in the EPR.
244	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1096, 8.12 EMI & EMF “. This section provides...” –sentence begins with period and space- please fix	Grammar/punctuation will be updated/corrected in the EPR.
245	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1112, 8.13.3.1.1 Drainage Areas “...will be approximately 0.07 ha at the location shown on Figure 8-32. ” –space missing	Grammar/punctuation will be updated/corrected in the EPR.
246	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1117, 8.13.4 Don Yard PS “The existing drainage pattern for the study area is shown on BREAK” –page break unnecessary- please move text up	Grammar/punctuation will be updated/corrected in the EPR.
247	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1128 “All leaks or spills will be immediately reported to the Ministry of the Environment , Spills Action Centre at 1-800-268-6060.” –please refer to our ministry as the “Ministry of the Environment and Climate Change”	Will change to Ministry of the Environment and Climate Change
248	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1131, 9.5.4.1 Potential Effects and Mitigation Measures “However, as the City of Vaughan is currently studying the future implementation of the Block 27 Secondary Plan.” –incomplete sentence (or period mistakenly used instead of comma)	Grammar/punctuation will be updated/corrected in the EPR.
249	Volume 3 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 1141, “...Canadian National Railway (CN) and Canadian Pacific Railway (CP0. ” –I believe 0 was used instead of end bracket- please confirm and revise.	Grammar/punctuation will be updated/corrected in the EPR.
250	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg iii – first paragraph ‘ which term which includes its text, tables, figures and appendices) has been prepared by Gannett Fleming Transit and Rail Systems’ – please revise wording	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
251	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg xiv – ESAs definition – ‘ Environmental Site Assessments The study of a property to determine if contaminants are present and, if so, the location and concentration of these contaminants.’ Missing full stop?	Grammar/punctuation will be updated/corrected in the EPR.
252	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg xvi – MBCA definition – ‘TMigratory Birds Convention Act.’ Remove T?	Grammar/punctuation will be updated/corrected in the EPR.
253	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg xxvi – Table E-1: Summary of Public Notices Published – under Publication Location the last three tabs show: Multiple Newspapers (See Section Error! eference source not found.) Hyperlink needs to be added correctly.	Grammar/punctuation will be updated/corrected in the EPR.
254	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg xxvi – Public Meetings – ‘The first two rounds occurred prior to the issuance of Notice of Commencement (i.e., during the Pre-Planning Phase), and the third round followed the issuance of the Notice of Commencement.’ Should say issuance of the Notice of Commencement.	Grammar/punctuation will be updated/corrected in the EPR.
255	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 5 - Table 1-1: Summary of Public Notices Published - under Publication Location the last three tabs show: Multiple Newspapers (See Section Error! eference source not found.) Hyperlink needs to be added correctly.	Grammar/punctuation will be updated/corrected in the EPR.
256	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 12 –Table 1-4: Summary of Pre-Planning Phase Public Comments Received (February/March 2016 –October 2016), #6: ‘Everyone who attend the meeting was provided the opportunity to submit their comments in writing so that they could be compiled for review, formally documented as part of the project’s consultation efforts and responded to by the project team.’ Should read attended.	Grammar/punctuation will be updated/corrected in the EPR.
257	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 13 – Table 1-4: Summary of Pre-Planning Phase Public Comments Received (February/March 2016 –October 2016), #6: ‘Reduction in Greenhouse Gas (GHG) Emissions, which forma minor part of the regional emissions total’. Space needed.	Grammar/punctuation will be updated/corrected in the EPR.
258	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 13 – Table 1-4: Summary of Pre-Planning Phase Public Comments Received (February/March 2016 –October 2016), #18: Note the Metrolinx or its contractor will be responsible for hiring these people to maintain the electrification system.’ Sentence reads strange, change the to that?	Grammar/punctuation will be updated/corrected in the EPR.
259	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 21 – Table 1-4: Summary of the Pre-Planning Phase Public Comments Received (February/March 2016-October 2016), #56: ‘Once electrification is implemented, Metrolinx will be maintain a mixed fleet of both diesel and electric trains.’ Sentence doesn’t read correctly.	Grammar/punctuation will be updated/corrected in the EPR.
260	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 21 – Table 1-4: Summary of the Pre-Planning Phase Public Comments Received (February/March 2016-October 2016), #56: ‘Please note that the actual service plan is still under development and this will issue will be part of the analysis.’ This issue will be part of the analysis.	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
261	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 24 - Table 1-4: Summary of the Pre-Planning Phase Public Comments Received (February/March 2016-October 2016), #83: Metrolinx is committed to building sustainable transportation infrastructure to lower our carbon footprint, conserve resources, and contribute to creating a clean and healthy and environment.’ Remove and.	Grammar/punctuation will be updated/corrected in the EPR.
262	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 24 - Table 1-4: Summary of the Pre-Planning Phase Public Comments Received (February/March 2016-October 2016), #84: ‘The OCS for the GO Rail Network Electrification Project will be designed to meet the both Canadian Standards Association (CSA) and American Railway Engineering and Maintenance-of-Way Association (AREMA) standards.’ Meet both the?	Grammar/punctuation will be updated/corrected in the EPR.
263	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Table 1-7 Summary of Pre-Planning Phase Public Comments Received (October/November 2016 – February 2017), #6: ‘Even through some projects are already under construction, they have made provisions for the future electrification infrastructure as much as possible.’ Even though.	Grammar/punctuation will be updated/corrected in the EPR.
264	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 46 - ‘Metrolinx did not send this follow up correspondence to the Huron Wendat First Nation, Curve Lake First Nation, and the Mississauags of the New Credit First Nation because they had preciously responded to the original correspondence sent on February 2, 2016.’ Previously.	Grammar/punctuation will be updated/corrected in the EPR.
265	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 48 - ‘The purpose of this meeting was to provide the Huron-Wendat Nation with an overview of Metrolinx’s organization the GO Rail Network Electrification Project, planned transit expansion projects and provide an opportunity to address any preliminary concerns and gain input.’ Missing of?	Grammar/punctuation will be updated/corrected in the EPR.
266	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 60, County of Simcoe – ‘During the meeting, a brief overview of the Electrification Project as provided and it was noted that assessments and property requirements would be coordinated between the various TPAPs.’ Was.	Grammar/punctuation will be updated/corrected in the EPR.
267	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 60, Region of York – ‘During the meeting, a brief overview of the Electrification Project as provided and it was noted that assessments and property requirements would be coordinated between the various TPAPs.’ Was.	Grammar/punctuation will be updated/corrected in the EPR.
268	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 62, 1.2.5.3.3 Municipal Information Packages – ‘Municipalities were provided with a copy of the PIC notice and a copy of the noise roll plans that were shown to be shown at each public meeting.’ Amend sentence to read correctly.	Grammar/punctuation will be updated/corrected in the EPR.
269	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 64, Technical Advisory Committee Meeting #5 – ‘Metrolinx concluded the meeting with an overview of the specific bridges located on each corridor and what site impacts may be occur.’ Remove be.	Grammar/punctuation will be updated/corrected in the EPR.
270	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	<ul style="list-style-type: none">• Pg 70, Lake Simcoe Region Conservation Authority – ‘When LSRCA inquired about the potential effects of birds landing on OCS wires, Metrolinx stated that these wires to not a concern for wildlife as they would need to be simultaneous in contact with the ground at the same time in order to be shocked.’ Are not a?	Grammar/punctuation will be updated/corrected in the EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
271	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 76, 1.2.5.5.3 Toronto Hydro Meeting – July 28 2016 – ‘Metrolinx stated that a list of prioritized conflicts should be provided to by August, 2016.’ Delete to.	Grammar/punctuation will be updated/corrected in the EPR.
272	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 77, 1.2.5.5.4 Newmarket-Tay Power Distribution Meeting May 3, 2016 – ‘It was noted that a storm water retention pon was located on the proposed site, and the pole spacing for gantries was inquired about for which Metrolinx provided the distance.’ Pond.	Grammar/punctuation will be updated/corrected in the EPR.
273	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 77, 1.2.5.6.1 Toronto Transit Commission – ‘A meeting on was held with TTC staff on February 24, 2016 to present project components and garner feedback.’ Delete on.	Grammar/punctuation will be updated/corrected in the EPR.
274	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 80 (tab two, paragraph 4), Table 1-12: Summary of Review Agency Comments Received – Pre-Planning Phase – ‘In DC electric traction systems, if there are buried metallic object , such as pipes....’ Objects.	Grammar/punctuation will be updated/corrected in the EPR.
275	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 81, last section of the page under MTCS Pre Planning, Table 1-12: Summary of Review Agency Comments Received – Pre-Planning Phase – ‘Since then, there could have other properties that have been identified as a PHP or PHPPS.’ Missing word (been?)	Grammar/punctuation will be updated/corrected in the EPR.
276	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 94 (8th tab down) – ‘Further review and discussion of existing bridge maintenance agreements will need to undertaken as the Project’s design progresses and specific details of bridge barrier and OCS attachments become available.’ Missing be.	Grammar/punctuation will be updated/corrected in the EPR.
277	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 95, (third last tab of page) – ‘... which will may entail additional EA studies that will be undertaken by Metrolinx and/or another municipality.’ Delete.	Grammar/punctuation will be updated/corrected in the EPR.
278	Volume 4 Grammar/Spelling Inconsistencies, Formatting edits	• Pg 97 (fourth tab from the bottom of the page) – ‘This will be considered as part of determine the required bridge modifications for electrification.’ Sentence doesn’t read correctly.	Grammar/punctuation will be updated/corrected in the EPR.
279	Volume 5 Grammar/Spelling Inconsistencies, Formatting edits	• No comments noted	No response required.

Table 1-22: Ministry of Tourism Culture and Sport Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MINISTRY OF TOURISM, CULTURE & SPORT			
1	Volume 1 Glossary of Terms Conditional Heritage Property	<p><i>“A property, including buildings and structures on the property, that is determined to potentially have cultural heritage value or interest and that is <u>not owned by the Crown in right of Ontario or by a prescribed public body.</u>”</i></p> <p>This term was developed by Metrolinx. We suggest revising the definition to delete reference to the Crown and PPBs, and replace it with: “. . .to potentially have cultural heritage value or interest and that is <u>not owned by Metrolinx</u>”.</p>	Acknowledged. Definition will be revised throughout the EPR.
2	Volume 1 Glossary of Terms Cultural Heritage Value or Interest	<p><i>“Term used to associate a location or structure with having characteristics or history that is significant to the Province of Ontario and has the potential to be worth maintaining.”</i></p> <p>1. We note the acronym CHVI is also included in the glossary.</p> <p>2. This term has not been defined under legislation. The following definition should be used in its entirety:</p> <p>“Cultural heritage value or interest: means the cultural heritage value or interest of a property determined in accordance with the “Criteria for Determining Cultural heritage value or interest” set out in Ontario Regulation 9/06 made under the Ontario Heritage Act or, in respect of properties of provincial significance, determined in accordance with the “Criteria for Determining Cultural Heritage Value of Provincial Significance” set out in Ontario Regulation 10/06 made under the Ontario Heritage Act and, for archaeological resources, means the cultural heritage value or interest of any archaeological resource as determined in accordance with the Standards and Guidelines for Consultant Archaeologists prepared and published by MTCS under the Ontario Heritage Act.”</p>	<p>Definition of CHVI (the acronym) to be removed from the table; “CHVI” to be added next to “Cultural Heritage Value or Interest”</p> <p>Definition will be revised.</p>
3	Volume 1 Glossary of Terms MTCS	<p><i>“Ontario Ministry of Tourism, Culture, and Sport. The governing body that enforces Part IV and V of the Ontario Heritage Act.”</i></p> <p>Revise to read:</p> <p>Ontario Ministry of Tourism, Culture, and Sport is responsible for the administration of the Ontario Heritage Act and may determine policies, priorities and programs for the conservation, protection and preservation of Ontario’s heritage.</p>	Definition will be revised.
4	Volume 1 Glossary of Terms Ontario Heritage Act (OHA)	<p><i>“Legislation giving municipalities and the provincial government powers to preserve the heritage of Ontario by protecting heritage properties and archaeological sites. See https://www.ontario.ca/laws/statute/90o18.”</i></p> <p>We understand this wording is from our Ministry’s website – so it is not incorrect http://www.mtc.gov.on.ca/en/heritage/heritage_act.shtml</p> <p>However the definition included in the S&Gs may be more relevant to this project - see below.</p> <p>“The <i>Ontario Heritage Act</i> provides the framework for provincial and municipal responsibilities and powers in the conservation of cultural heritage resources.” https://www.ontario.ca/laws/statute/90o18</p>	Definition will be revised.
5	Volume 1 Glossary of Terms Provincial Heritage Property (PHP)	<p>“A real property, including buildings and structures on the property, that has cultural heritage value or interest and that is owned by the Crown in right of Ontario or by a prescribed public body; or that is occupied by a ministry or a prescribed public body if the terms of the occupancy agreement are such that the ministry or public body is entitled to make the alterations to the property that may be required under</p>	Definition will be revised.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		these heritage standards and guidelines. (Standards and Guidelines for Conservation of Provincial Heritage Properties, OHA)” To be consistent with the definition in the S&Gs. please add the word “ <u>Real</u> property” at the beginning of the sentence, and a reference at the end. Suggested additions are bolded.	
6	Volume 1 Table 3-1 TPF Sites Evaluation Criteria & Descriptions (p 39)	“Cultural Heritage <i>Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have provincial value or interest, as defined in O. Reg. 231/08.”</i> Suggest using language that is consistent with O. Reg. 231/08 and TPAP document. O. Reg. 231/08 refers to: “the project may have a negative impact of a matter of provincial importance that, has cultural heritage value or interest” [12.5 (a(i))] The TPAP document describes “provincial importance” to include: <ul style="list-style-type: none">• Protected heritage property• Built heritage resources• Cultural heritage landscapes• Archaeological resources and areas of potential archaeological interest The above refers to “any property with cultural heritage value or interest, “provincial importance” is not restricted to a property meeting criteria 10/06 (i.e. also includes properties meeting 9/06)	Definition will be revised.
7	Volume 1 [USRC] OCS attachments to smoke ducts (p68)	“ <i>Trimming of the smoke ducts/vents is in the process of being completed as part of the Union Station Trainshed project which will create additional clearance within the train shed. Installation of supports in the vents will most likely done using treaded stub inserts and bolting attachment assemblies to them. (drilling a hole, and epoxying a threaded bolt into the vent).</i> ” Is work in connection with electrification of the Union Station Trainshed currently underway? Trimming the smoke ducts/vents is discussed in the HIA. If this work is underway, please provide details of the consultation and approval by Parks Canada and the City of Toronto pursuant to the Collateral Agreement	Spelling of ‘ducks’ will be corrected. <i>Metrolinx can confirm Stage 1, Stage 2 and Stage 3 Conservation Plans were submitted to Parks Canada under the Collateral Agreement for the trainshed restoration project. Metrolinx received approval from Parks Canada and City of Toronto.</i> <i>Please refer to Item 8q in the attached letter (Feb 2010) which gave Metrolinx approval for the work referenced above.</i>
8	Volume 1 Bridge Modifications 3.9.3.1 Bridge Barrier Design Options (p133)	“ <i>As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/option for enhancing the aesthetics of bridge barriers where feasible/required. It is anticipated that the basis of the protection barrier will be a post and panel (solid-faced) design with customizable panels toward suiting visual preferences (in consultation with the applicable bridge owners as appropriate), such as:</i> <ul style="list-style-type: none">• Multilane, restricted access highways and non-visually sensitive locations;• Visually sensitive locations;• Structures of heritage value or sensitivity.” The “Design Excellence Committee” should include a heritage bridge specialist to advise and inform design elements that will impact identified heritage bridges. Ideally, potential impacts should be known and the advice of qualified heritage professional sought prior to detail design.	HIAs will be completed by qualified heritage specialist. The design will be informed by the HIAs.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
9	Volume 1 Bridge Modifications 3.9.4 Modifications to Achieve Minimum Vertical Clearance (p133-134)	<p><i>“There are three possible engineering solutions that may be implemented to achieve the required MVC for the 12 overhead bridges including the following:</i></p> <p><i>i) raise the existing bridge, ii) lower the tracks, iii) replace the bridge, or some combination of these solutions.”</i></p> <p>We would have concerns with the replacement of any heritage bridges.</p> <p>MTCS may have questions or may require further clarification of options to be implemented on identified heritage bridges.</p>	No bridges currently proposed for replacement are heritage bridges as designated under 9/06 or 10/06.
10	Volume 1 Bridge Modifications 3.9.5 Modifications to Pedestrian Bridges (p138)	<p><i>“Based on the conceptual engineering work completed to assess potential modifications to the pedestrian bridges, it was established that several of these pedestrian bridges will need to be either <u>replaced or modified</u> to incorporate a protective barrier”</i></p> <p>Please confirm that none of the pedestrian bridge that may be replaced have CHVI.</p> <p>MTCS may have questions or may require further clarification of options to be implemented on identified heritage bridges.</p>	<p>We can confirm that none of the pedestrian bridges to be replaced or modified have CHVI (further information provided in red below) as documented in the EPR.</p> <ul style="list-style-type: none">Four (4) overhead pedestrian bridges on Lakeshore West Corridor<ul style="list-style-type: none">OH Bridge 3.02 Dowling Avenue (new bridge has replaced heritage structure)OH Bridge 3.54 Sunnyside (determined to be a non-heritage property – MHC decision)OH Bridge 31.28 Drury Lane (determined to be a non-heritage property – MHC decision)OH Bridge 31.65 GO Station Burlington (screened out)One (1) overhead pedestrian bridge on Barrie Corridor<ul style="list-style-type: none">OH Bridge 5.65 Innes Avenue (determined to be a non-heritage property – MHC decision)One (1) overhead pedestrian bridge on Stouffville Corridor<ul style="list-style-type: none">OH Bridge 58.79 Mooregate / Tara Avenues (screened out)Two (4) overhead pedestrian bridges on Lakeshore East (LSE) Corridor<ul style="list-style-type: none">OH Bridge 1.09 GO Station Pickering North (screened out)OH Bridge 8.87 GO Station Whitby (screened out)OH Bridge 326.15 Woodrow Avenue (screened out)OH Bridge 330.96 Pape Avenue (determined to be a non-heritage property – MHC decision)
11	Volume 1 Bridge Modifications 3.1.5.8 Bridges and Rail Overpasses (p 192)	Please bear in mind that any alteration or attachments to an identified heritage bridge may require special considerations. For example, attaching grids, flashplates etc. to the underside of bridges may not visually impact a specific heritage attribute, but may have a detrimental effect on the original structure depending on the material used. If this has not been considered, it should be during detail design.	<p>HIAs will be completed for 10/06 properties as part of the TPAP. In addition, HIAs for 9/06 properties will be undertaken as part of detail design to minimize or avoid potential impacts to heritage attributes.</p> <p>Safety remains a priority at Metrolinx. Engineering analysis during Detailed Design will consider the structural integrity of the bridges.</p>
12	Volume 1 Bridge Modifications 3.1.5.8.5 Bridge Replacements (p192)	<p><i>“The detailed design and <u>full extent of potential impacts related to bridge replacements will be assessed as part of separate/future EA/TPAP studies</u> to be undertaken by Metrolinx and/or the affected municipality.”</i></p> <p>MTCS is not aware of separate or future EA /TPAP being undertaken. Please provide us with details. As this may influence on-going discussions between MTCS and MX on commitments for future studies.</p>	To provide clarification: For the current GO Rail Network Electrification TPAP, potential environmental impacts due to bridge replacements were assessed within the Metrolinx rail ROW. During the subsequent detailed design phase, Metrolinx will determine the final design requirements for the new replacement structures. As part of this process, it is recognized that additional impacts beyond Metrolinx’s rail ROWs may be identified and will therefore require additional environmental/planning studies to determine the preferred design options and to identify mitigation measures to alleviate these effects. It is currently anticipated that these additional studies will be completed as part of an

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p><i>Addendum</i> to the GO Rail Network Electrification TPAP, in coordination with affected municipalities as appropriate. MTCS will be consulted as part of the process.</p> <p>Consultation with bridge owners remains ongoing as part of the Electrification TPAP with respect to the proposed modifications to bridges.</p>
13	Volume 2	NOTE- some information is repeated in various sections of the Draft EPR. MTCS’s comments and proposed revisions should be applied throughout the document	Noted. The applicable comments and revisions will be reflected throughout the EPR and Appendix C & D as appropriate.
14	Volume 2 Executive Summary USRC (p-lviii) Cultural Heritage	<p><i>“A draft CHER was completed for Union Station in 2016 and subsequently approved by the Metrolinx Heritage Committee. A high level Heritage Impact Assessment (HIA) has also been completed for Union Station for electrification modifications to the train shed. Should any heritage attributes at Union Station be removed or demolished as part of the Electrification EA, the Ministry of Tourism, Culture and Sport (MTCS) would need to approve this work. As electrification will entail modifications to Union Station’s Train Shed, the HIA will need to be submitted to Parks Canada for formal approval prior to construction.”</i></p> <p>This does not quite capture information we consider to be pertinent. We suggest the following revisions:</p> <p>A draft CHER was completed for Union Station in 2016 and subsequently approved by the Metrolinx Heritage Committee. Union Station is a National Historic Site (2006 and 2007) and was identified by Metrolinx as a provincial heritage property of provincial significance (2016). A high-level preliminary Heritage Impact Assessment (HIA) has also been completed for Union Station for electrification modifications to the train shed. Should any heritage attributes at Union Station be removed or demolished as part of the Electrification EA, the Ministry of Tourism, Culture and Sport (MTCS) would need to approve this work. As electrification will entail modifications to Union Station’s Train Shed, the HIA will need to be submitted to Parks Canada for formal approval prior to construction.</p> <p><u>Heritage protection of Union Station falls under both federal requirements established under applicable heritage easements and collateral agreements between Parks Canada and the City of Toronto, and provincial requirements under the Standards and Guidelines for Conservation of Provincial Heritage Properties. Any proposed modifications to Union</u></p> <p><u>Station’s Train Shed, will require formal approval prior to the completion of detail design. Metrolinx will provide the necessary documents for review and approval to Parks Canada, the City of Toronto and to MTCS</u> and coordinated closely to maximize efficiencies. Should any heritage attributes at Union Station be removed or demolished as part of the Electrification EA TPAP, the Ministry of Tourism, Culture and Sport (MTCS) would need to approve this work.</p> <p>MTCS has not seen the 2016 CHER for Union Station. Could Metrolinx please provide it and the resulting SCHV. We cannot review the HIAs without it.</p>	<p>Paragraph will be revised.</p> <p>The 2016 CHER for Union Station and resulting SCHV will be provided to MTCS.</p>
15	Volume 2 Executive Summary USRC (p-lviii) Archaeology	<p><i>“. . . Only 1 ha of the corridor has been previously assessed, therefore the remainder of the corridor requires archaeological assessment to confirm which lands require a more detailed assessment.”</i></p> <p>This implies that a Stage 1AA has <u>not</u> been completed of at least some portions of the study area. Please confirm what level of AA has been completed.</p> <p>Similar text is included for other project areas throughout the EPR. MTCS’s best advice is that a minimum of Stage 2AA is to be completed during the TPAP.</p>	<p>“Previous assessment” refers to assessments that were previously completed for other overlapping projects that were documented as part of ASI’s background research.</p> <p>The text quoted by MTCS is taken from the baseline conditions report, not the Stage 1 AA report.</p> <p>The text will be revised to: “Only 1 ha of the corridor was subject to assessment during previous overlapping projects, therefore the remainder of the corridor was subject to a Stage 1 AA for this TPAP to confirm which lands have further archaeological potential and require Stage 2 archaeological assessment.”</p> <p>We will be undertaking Stage 2 AA where PTE is obtained as part of the TPAP.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Please advise as soon as possible if portions of these corridors have <u>not</u> been subject of at least a Stage 1AA.	
16	Volume 2 Lakeshore West Corridor	(the following text will serve as Examples to be revised in other sections of the EPR.	Noted.
17	Volume 2 Lakeshore West Corridor Burlington Tap Location and TPS (p lxiii) Mimico Tap Location and TPS (p lxiv)	<i>“Lands in the vicinity of the site have potential for the identification of Aboriginal and Euro-Canadian archaeological sites”</i> The basis for these statements is not clear. If a Stage 1AA was conducted and determined potential, it should be stated. Also, in this case the AA report would also have recommended further AA (Stage 2 etc.) If a Stage 1AA has not yet been conducted, please advise us immediately.	Please see response #15. “A Stage 1 was conducted and it determined that the study area has potential for the identification of Indigenous and Euro-Canadian archaeological resources. Therefore a Stage 2 archaeological assessment has been recommended for this location”
18	Volume 2 Lakeshore West Corridor Mimico SWS (p lxiv), Oakville SWS (lxv)	<i>“The site has potential for the identification of Aboriginal and Euro-Canadian archaeological sites”</i> The basis for these statements is not clear. If a Stage 1AA was conducted and determined potential, it should be stated. Also, in this case the AA report would also have recommended further AA (Stage 2 etc.) If a Stage 1AA has not yet been conducted, please advise us immediately.	Please see response #15. Stage 1 was completed and Stage 2 was recommended where archaeological potential remained intact.
19	Volume 2 Lakeshore West Corridor Cultural Heritage (lxvi)	<i>“A total of <u>35 cultural heritage resources</u> are located in this corridor, and CHERs are recommended for nine (9) of these.”</i> The basis for this statement is not clear. If 35 properties were identified through the screening criteria, then they would be considered <u>potential</u> cultural heritage resources. For this EPR adding the word <u>“potential”</u> may be sufficient. FYI- Unless a property has a previous recognition (designation, listing etc.) then it is only through evaluation (CHER) that cultural heritage value or interest is determined. This is an example of text; our comments are applicable throughout the document.	To be more accurate, Volume 2 will be revised as follows: <i>“A total of 38 resources were subject to heritage screening. Of these, 20 were determined to be non-heritage properties, five were determined to be Conditional Heritage Properties, nine were identified as PHP/PHPPs, and four were identified as protected heritage properties adjacent to the study area. CHERs are recommended for nine (9) of these...”</i>
20	Volume 2 Lakeshore West Corridor Archaeology (lxvi)	<i>“The corridor has been subject to at least 10 previous archaeological assessments, and approximately 11.3 ha has been previously assessed. . . .<u>given its proximity to cemeteries, further archaeological assessment is required.</u>”</i> This may need clarification. What level of AA has been completed? Has the corridor been cleared, except for the cemetery?	There are no cemeteries identified on the Lakeshore West corridor. Stage 1 was completed and Stage 2 was recommended at TPF locations where archaeological potential remained intact. The Lakeshore West Rail Corridor does not have further archaeological potential as outline in the Stage 1 AA Report contained in Appendix D.
21	Volume 2 Barrie Corridor (lxxviii) Allandale TPS (lxxix)	We are not sure where this TPS is in relation to the Allandale Station site, but considering the extent of archaeological activity and controversy in this area, we strongly recommended that any further archaeological assessment be prioritized and be considered especially sensitive - both in terms of archaeology, and potential interest of the Indigenous community.	Stage 2 AA reports were recently completed for the Barrie Layover facility expansion (adjacent to Allandale GO) which is a separate Metrolinx project from the Electrification TPAP. MTCS accepted both reports into the Provincial registry. The Stage 1 Report contained in Appendix C for the GO Rail Network Electrification TPAP will be updated to reflect this. To clarify, the proposed Allandale TPS is located 1.8 kilometers from Historic Allandale Train station and parts of this site have been recommended for Stage 2 and this will be completed as part of the Electrification TPAP, pending PTE.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
22	Volume 2 Barrie Corridor (lxxviii) Maple PS (lxxxi)	<p><i>“The entire Maple PS has been subject to previous Stage 2 archaeological assessment, and includes lands modeled to possess potential for an <u>ancestral Huron-Wendat Ossuary</u>. It is also immediately adjacent to the <u>Hope Primitive Methodist Cemetery</u>. These lands should be <u>protected and avoided from any planned impacts by the project</u>.”</i></p> <p>Does the Stage 2AA recommended further AA (Stage3?) Are there specific protection measures in place?</p> <p>We strongly suggest that further archaeological assessment should be prioritized and be considered especially sensitive - both in terms of archaeology, and potential interest of the Indigenous community.</p> <p>We may have further comments and recommendations</p>	Previous Stage 2 work was conducted at Maple PS and no archaeological resources were found. The Hope Primitive Methodist cemetery will not be impacted by the proposed Maple PS, however a further recommendation will be added to the report to note that any proposed impacts within 10 meters of the cemetery boundary should be preceded by a Stage 3 cemetery investigation.
23	Volume 2 Barrie Corridor (lxxviii) Archaeology (lxxxiii)	<p><i>“. . .proximity to an <u>ancestral Huron- Wendat Settlement and an associated occupation of a known Ojibway settlement at Holland Landing</u>, further archaeological assessment is required.”</i></p> <p>We strongly suggest that further archaeological assessment should be prioritized and be considered especially sensitive - both in terms of archaeology, and potential interest of the Indigenous community.</p>	Stage 1 refined these recommendations from the Baseline Conditions report. Further Stage 2 assessment is being undertaken as part of the TPAP where archaeological potential has been identified where PTE is granted. This report will be provided to MTCS for review once completed and included in the Final EPR.
24	Volume 2 Stouffville Corridor (xcii) Archaeology (xcvi)	<p><i>“given the proximity of the corridor to an <u>ancestral Huron-Wendat Settlement</u>, further archaeological assessment is required”</i></p> <p>We strongly suggest that further archaeological assessment should be prioritized and be considered especially sensitive - both in terms of archaeology, and potential interest of the Indigenous community.</p>	Stage 1 refined these recommendations from the Baseline Conditions report. Further Stage 2 assessment has been undertaken for the Lincolnville PS per the Stage 1 recommendation. The Stouffville corridor has been assessed as disturbed. This report will be provided to MTCS for review and included in the Final EPR.
25	Volume 2 Lakeshore East Corridor (cii) Don Yard PS (civ)	<p><i>“has potential for the identification of Aboriginal and Euro-Canadian archaeological sites. The entire site has been subject to previous archaeological assessment.”</i></p> <p>Please clarify whether it requires further AA or not (Stage 2AA?) If assessed, what was the overcome?</p>	Stage 1 has since refined these recommendations from the Baseline Conditions report. The Don Yard PS was previously subject to a Stage 1 assessment as part of the West Donlands Transit Environmental Assessment. It was determined that the area did not retain archaeological potential due to deep and pervasive disturbances. No further assessment is required.
26	Volume 2 Lakeshore East Corridor (cii) Archaeology (cvi)	<p><i>“paragraph refers to Stouffville Corridor.”</i></p> <p>This is likely a typing or editing error.</p>	Noted. This typographical error will be corrected.
27	Volume 2 1. BASELINE CONDITIONS – APPROACH, METHODOLOGY AND ORGANIZATION (p1) 1.5.3 Cultural Heritage (p 28)	<p><i>“the first paragraph states:</i> <i>The Screening Report is scoped to address all appropriate requirements specified in the document entitled Cultural Heritage Resource Component of Environmental Assessments (Ministry of Culture and Communications, 1992) and results in the preparation of a “Screening for Built Heritage Resources and Cultural Heritage Landscapes”, as described in the document entitled Metrolinx Heritage Guidelines for Consultant (July 21, 2015).”</i></p> <p>MTCS has a different understanding of the document guiding the cultural heritage component for a TPAP.</p> <p>We may have further comments and may recommend revisions at a later time.</p> <p>Meanwhile, MTCS is not familiar with the document, <i>Metrolinx Heritage Guidelines for Consultant</i> (July 21, 2015). Would MX please provide us with a copy, as it will assist MTCS and MX in our on-going process discussions?</p>	Metrolinx will provide MTCS with a copy of the Metrolinx Heritage Guidelines for Consultant (July 21, 2015).

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
28	Volume 2 1. BASELINE CONDITIONS – APPROACH, METHODOLOGY AND ORGANIZATION (p1) 1.5.3.1 Screening for Cultural Heritage Resources (p 29)	MTCS may have further comments and may recommend revisions to this section at a later date as a result of on-going discussions with MX.	Noted.
29	Volume 2 1. BASELINE CONDITIONS – APPROACH, METHODOLOGY AND ORGANIZATION (p1) 1.5.4 Archaeology (p 30)	<p><i>“The purpose of this review exercise [Data Gap Analysis] was to inform the next step in the process which will entail completion of Stage 1 Archaeological Assessments at those specific locations where no previous archaeological assessment work has been undertaken.”</i></p> <p>This seems to be saying that there are areas within these corridors that have not been subject to <u>Stage 1AA</u>. Please confirm that my reading of this is correct. If this is the case, MTCS may have further comments and recommend revisions at a later date. Meanwhile, this may require further discussion with MX, and their consulting team to determine a mutually agreeable strategy forward.</p>	Please refer to response #15.
30	Volume 2 2.3 Cultural Heritage (p 45) 2.3.1.1 Union Station (p45)	<p>2.3.1.1 Union Station (p45)</p> <p><i>A CHER was completed for Union Station and approved by the Metrolinx Heritage Committee (MHC) in March 2016. The MHC determined that it meets O. Reg.</i></p> <p><i>9/06 and 10/06 and is a Provincial Heritage Property of Provincial Significance (MHC Decision Form 29 March 2016). Union Station is a National Historic Site (2006 and 2007) and was identified by Metrolinx as a provincial heritage property of provincial significance (2016). As discussed with Metrolinx and MTCS, a high level A preliminary Heritage Impact Assessment (HIA) will has been completed for Union Station. [if this ERA’s HIA pls clarify] Based on discussions with Metrolinx, Parks Canada and MTCS to date, it is understood that both federal requirements established under applicable heritage easements and collateral agreements between Parks Canada and the City of Toronto, and provincial requirements enabled under the Standards and Guidelines for Provincial Heritage Properties will be addressed and coordinated closely to maximize efficiencies.</i></p> <p><i><u>Heritage protection of Union Station falls under both federal requirements established under applicable heritage easements and collateral agreements between Parks Canada and the City of Toronto, and provincial requirements under the Standards and Guidelines for Conservation of Provincial Heritage Properties. Any proposed modifications to</u></i></p> <p><i><u>Union Station’s Train Shed, will require formal approval prior to the completion of detail design. Metrolinx will provide the necessary documents for review and approval to Parks Canada, the City of Toronto and to MTCS and coordinated closely to maximize efficiencies. Should any heritage attributes at Union Station be removed or demolished as part of the Electrification EA-TPAP, the Ministry of Tourism, Culture and Sport (MTCS) would need to approve this work.</u></i></p> <p>Suggested MTCS suggested revisions added to existing text</p>	Metrolinx finds the suggested language acceptable. However we will keep “MHC determination” language around MX PHPPS as it represents the decision process.
31	Volume 2 2.3 Cultural Heritage (p 45) 2.3.1.1.1 Federal Approvals (p 45)	<p>2.3.1.1.1 Federal Approvals Electrification will entail modifications to Union Station’s Train Shed. A HIA will be prepared and submitted to Parks Canada, City of Toronto and MTCS for review and for formal approval <u>prior to construction</u> (we prefer prior to completion of detailed design), as per Appendix F of the “Union Station, Toronto, Ont., Review of Heritage Zones” prepared by the Heritage Conservation Program Real Property Services Dedicated Unit (CH/EC). . . .</p>	<p>Noted. A review of the text will be undertaken and updates made, as required. A copy of the HIA for the Union Station Train Shed was included in Appendix M of the Draft EPR circulated to Parks Canada, City of Toronto and MTCS for review and comment.</p> <p>Appropriate federal approvals will be obtained per the Collateral Agreement, as required prior to the commencement of construction.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p><i>The Parks Canada Process for Review of Alterations (Stages 1, 2 and 3) document provides further information with regards to process for federal approvals</i></p> <p>This information may contradict a later section in the EPR – under Impact Assessment that includes Taylor Hazell’s SCHV for Union Station.</p> <p>We may have further comments at a later date.</p>	
32	Volume 2 2.3 Cultural Heritage (p 45) 2.3.1.1.2 Provincial Approvals (p 45)	<p><i>“Should any heritage attributes at Union Station be removed or demolished as part of the Electrification EA, the MTCS would need to approve this work.”</i></p> <p>Please add:</p> <p>Metrolinx to coordinate regulatory agencies review of the HIAs (Parks Canada, MTCS and the City – Heritage Preservation Services).</p>	Metrolinx will coordinate regulatory agencies review of the HIAs (Parks Canada, MTCS and the City – Heritage Preservation Services).
33	Volume 3 Executive Summary Cultural Heritage (Ixxiii)	<p><i>“Step 3 – CHERs</i> <i>Based on the results of the Cultural Heritage Impact Assessment Report, carried out <u>Cultural Heritage Evaluation Reports (CHERs)</u> to identify heritage attributes associated with the potentially affected heritage resources. Copies of CHERs completed as part of the Electrification TPAP are included in Appendix M (note that not all CHERs have been finalized at the time of writing the Draft EPR and will be provided once available). All available Statements of Cultural Heritage Value have also been included in Appendix M.</i></p> <p><i>. . . . HIAs for the recommended heritage resources <u>are currently in progress</u> and will be completed as part of the TPAP.”</i></p> <p>a. The purpose of a CHER is to evaluate each property against the criteria of 9/06 and 10/06 to determine whether the property has cultural heritage value or interest, and in the case of 10/06 whether it has CHVI of provincial significance. The CHER conclusions/results will also identify the properties heritage attributes. The SCHV will be developed based on the CHER, and will list the heritage attributes. Same for HIAs.</p> <p>b. MTCS may have further comments once further CHERs have been completed and provided to us fro review. Could MX provide us with a timeline as to when the remaining CHERs will be completed and made available to MTCS. Understanding the whether or not a property has CHVI, and its basis is essential to being able to provide meaningful input for this TPAP. MX has advised that it intends to issue the Notice of Commencement on March 20th, 2017. Given that under a TPAP there is only 120 days from this point to the TPAPs completion having complete and full information prior to the Notice of Commencement is essential.</p> <p>c. The CHERs included in Appendix M do not include the heritage consultant’s conclusions. Did the property meet the criterial of 9/06 and 10/06 or not? In some cases the CHER includes a SCHV. Are we to conclude that if a CHER does not include a SCHV it did not meet the criteria? For the purpose of a TPAP, and since this is a public document, we suggest clarity in this regard.</p>	<p>a. Metrolinx acknowledges that some CHERs and associated SCHV were in progress at the time of the Draft EPR Circulation. All final copies of CHERs/SCHVs will be included in the Final EPR. In addition, SCHV will be included/summarized for the purposes of future HIA’s to be completed, as required.</p> <p>b. Metrolinx acknowledges that some CHERs and associated SCHV were in progress at the time of the Draft EPR Circulation. All final copies of CHERs/SCHVs will be included in the Final EPR.</p> <p>c. Tables provided in the body of EPR Volume 3 summarize the results of the CHERs undertaken and Metrolinx Heritage Committee’s decision results on whether the property is considered a non-heritage property, Provincial Heritage Property (PHP) or Provincial Heritage Property of Provincial Significance (PHPPS). Where a property met the criteria under O. Reg. 9/06 or 10/06 as described in Volume 3 a SCHV has been provided in Appendix M.</p>
34	Volume 3 Executive Summary <i>Table E-2. Current Status of CHER’s and HIA’s required for the electrification project (p Ixxiv)</i>	<p>The listed owners of some of these properties are incorrect. For example, Union Station is not owned entirely by the City of Toronto. The tri-party collateral agreement also establishes ownership. Similarly the Scott Street and Cherry Street Interlocking Towers are owned by Metrolinx. The Rouge River Rail Bridge and the Highland Creek Rail Bridge are also owned by Metrolinx.</p> <p>This is only a partial list. Please confirm review the list and revise accordingly.</p>	Noted. Property owner information will be reviewed, and updated as required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
35	Volume 3 Future Work – Cultural Heritage (lxxxi) Stage 3 & 4 Archaeological Studies (lxxxvii)	<p><i>“Based on the results of the Stage 2 archaeological assessments, further Stage 3 archaeological assessment and/or Stage 4 mitigation will be conducted, as required, on any newly- discovered Indigenous or Euro-Canadian site determined to have Cultural Heritage Value or Interest (CHVI) that will be impacted by construction associated with the OCS footprint and facility sites.”</i></p> <p>We suggest deleting the underlined part. The wording and intent is not consistent with MTCS Standards and Guidelines for Consultant Archaeologist.</p>	Noted. Text will be deleted in keeping with the MTCS S&G.
36	Volume 3 1 Impact Assessment – Approach & Methodology (p1) Cultural Environment Factor: (p2)	<ul style="list-style-type: none">- Cultural Heritage Features (i.e., built heritage features, cultural landscapes)- Archaeological Features <p>For consistency please revise terminology to read:</p> <ul style="list-style-type: none">• Cultural Heritage Resources (built heritage resources and cultural heritage landscapes)• Archaeological Resources	Terminology to be revised.
37	Volume 3 2. OVERVIEW OF ENVIRONMENTAL INTERACTIONS (p 4) Table 2-1 Environmental Interaction Matrix – GO Rail Network Electrification Project (p 4-5)	<p><i>Under the cultural heritage column – under Construction Phase:” Installation of bridge barriers, OCS attachments and flash plates, raise bridge, lower tracks”</i></p> <p><i>Under the Archaeology column - under Construction Phase: Operation of heavy trucks and machinery and Construction staging areas would have an impact on any unexcavated (or unprotected) archaeological sites.</i></p> <p>This would also have a potential impact on heritage bridges.</p> <p>Typically, MTCS advises that any AA should include temporary construction staging areas and access roads. We would also expect that any required archaeological assessments (up to Stage 4 if necessary) are competed well in advance of any construction work</p>	<p>Construction impacts identified for Archaeology and Cultural Heritage will be reviewed for consistency and applicability.</p> <p>The Stage 1 Archaeological Assessment Report contained in Appendix D2 (Section 5.7 p138)--that states that any construction staging areas added during detail design will require further archaeological assessment—however these construction staging areas are not known at this stage of the project.</p> <p>Access roads for the TPFs were considered and assessed as part of the Stage 1 AA completed for the Electrification TPAP. See Figures in <i>Appendix 4</i> in the Stage 1 AA report (see EPR Appendix D) that depict TPF access roads. The entire property parcel for each facility was assessed in addition to the actual TPF footprint in order to take a more conservative approach at the TPAP stage. The Stage 1 AA will be updated to reflect this. In addition, Stage 2 Archaeological Assessments will be completed per the recommendations provided in the Stage 1 AA, pending PTE as outlined in the draft EPR, and will be provided to MTCS once completed and included in the Final EPR.</p>
38	Volume 3 3. IMPACT ASSESSMENT – UNION STATION RAIL CORRIDOR 3.3 Cultural Heritage (p 21) Table 3-4 Summary of USRC-2 Potential Footprint Impacts and Mitigation Measures (p 22)	<p><i>“Potential Effect column states: Alteration: Displacement of heritage attributes and/or disruption of setting</i></p> <p><i>Avoidance/Mitigation/Compensation Measures column:</i></p> <ul style="list-style-type: none">• <i>Conduct a Heritage Impact Assessment (HIA) during the TPAP to identify potential impacts and appropriate mitigation measures</i> <p><i>“During detail design, the HIA should be updated, if necessary in consultation with the MTCS, Parks Canada, and City of Toronto Heritage Preservation Services”</i></p> <p>This is somewhat vague. Is it possible to provide any more specific detail as to what the impact may be?</p> <ol style="list-style-type: none">a preliminary HIA has been prepared which identified three options all of which have potential impacts to heritage attributes.conducting/preparing an HIA, in itself, is not mitigation. The consultant’s recommendations articulated in the HIA should be followed, and should inform the detail design phase of the project. The purpose of the HIA is for a “qualified person” (e.g. heritage consultant with expertise with the particularly type of resource being impacted) to provide advice on how impacts can be avoided or minimized. This would require the HIA to be prepared well in advance of the detail	<p>Avoidance/Mitigation/Compensation Measures for the Scott Street and Cherry Street Interlocking Towers will be revised as it has been confirmed that no impacts to these properties due to Electrification are anticipated. Impacts to Union Station Train Shed are summarized in Section 3.3.1.1.1. A commitment to future work will be added should impacts be identified at later project stages.</p> <p>A HIA for Union Station Train Shed has been completed and provided in Appendix M. HIAs for 10/06 properties affected by Electrification are being undertaken as part of the TPAP.</p> <p>Conclusions/recommendations provided in the HIA and as summarized in Section 3.3.1.1.1. of EPR Volume 3 will be reflected in the contract documents for the Contractor to adhere to during design/construction. Further discussions regarding the project’s design will be undertaken with City of Toronto, Parks Canada and MTCS as it progresses and during detail design. HIAs will be prepared by a qualified heritage consultant.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		design, and provide advice to inform the detail design. Ideally, a heritage consultant should be part of the detail design team.	
39	Volume 3 3. IMPACT ASSESSMENT – UNION STATION RAIL CORRIDOR 3.3 Cultural Heritage (p 21) 3.3.1.1.1 Union Station Trainshed (p23) Background (p 24)	<p><i>“Union Station Complex was previously evaluated under Ontario Regulation 9/06 and 10/06 in June 2016, by Taylor Hazell Architects. The Ontario Regulation 9/06 evaluation determined that the Union Station Trainshed meets the requirements to be considered a Provincial Heritage Property.”</i></p> <p>To clarify, on MTCS’s recommendation Metrolinx undertook the 2016 CHER in order demonstrate its due diligence and also to bring existing documentation in line with the Provincial under the S&Gs. MTCS has not previously seen the CHER or the SCHV for Union Station. Please provide a copy of the CHER/SCHV for our records and for review. WE have some concerns that this information may contradict the Parks Canada document mentioned in Vol2 p45.</p> <p>We may have further comment on this section after we have had an opportunity to review the documents more closely.</p> <p>MTCS has already advised Metrolinx that the Parks Canada approval process should be followed, but that MTCS should be included in the review and commenting. Inclusion of all parties will avoid unnecessary duplication of technical studies, ultimately ensuring timely and cost effective outcomes.</p>	<p>Metrolinx will provide a copy of the CHER completed separate from the Network Electrification TPAP/project. The HIA/SCHV for the Union Station Train Shed was provided in Appendix M of the Draft EPR.</p> <p>As noted, Metrolinx will be following the approval process per the Collateral Agreement and including MTCS in the review process.</p>
40	Volume 3 3. IMPACT ASSESSMENT – UNION STATION RAIL CORRIDOR 3.3 Cultural Heritage (p 21) Background (p 24) - Conclusions and Recommendations (p 27)	<p>This section starts off referencing the CHER, but concludes by quoting the HIA. The language and references should be clarified. Our suggestion is that this section 3.3.1.1.1 should focus on the HIA (i.e. Impact Assessment) rather than the CHER.</p> <p>The text should be revised to state that, “Union Station is a National Historic Site (2006 and 2007) and was identified by Metrolinx as a provincial heritage property of provincial significance (2016)”. Then reference the Heritage Impact Assessment completed on _____ by E.R.A. The purpose of the HIA (preliminary?) was to consider the potential impacts of proposed interventions. We suggest listing the (three??) interventions and its conclusions that all three will impact an aspect of CHVI and or heritage attribute. Then include recommendations from the HIA.</p>	<p>The discussion will be reviewed and updated to ensure the summary is clear with respect to referenced resources/reports. Results of the HIA will be clarified.</p>
41	Volume 3 3. IMPACT ASSESSMENT – UNION STATION RAIL CORRIDOR 3.3 Cultural Heritage (p 21) Conclusions and Recommendations (p27) – some of the language in this section must be revised.	<p>a. However, these impacts can be mitigated as the project undergoes further analysis of its requirements and once a final design has been determined. The recommendations of the HIA must inform the final design not the other way around. Also, this statement contradicts the following sentence, “Solutions should be designed in visual harmony with historic features and contemporary design excellence”. Please clarify the language</p> <p>b. Final designs will be reviewed by Parks Canada and the City of Toronto. Please add MTCS.</p> <p>c. We also suggest adding text about approvals etc. The following text is taken from another section of the draft EPR and modified by MTCS,</p> <p>As electrification will entail modifications to Union Station’s Train Shed, A detailed HIA (??) will need to be submitted to Parks Canada, City of Toronto and MTCS for review, and for formal approval, pursuant to the Collateral Agreement (2006?) prior to construction [MTCS would prefer – prior to completion of detailed design].</p>	<p>a. Revisions will be made to report language to clarify that the HIA will inform the final design.</p> <p>b. MTCS will be added.</p> <p>c. Text will be added regarding the approvals as noted. Metrolinx will be following the approval process per the Collateral Agreement and including MTCS in the review process.</p>
42	Volume 3 4.3.6 Corridor & Bridges: Section LSW-1 – West of Bathurst Street	<p>CHR#: <i>Humber River Bridge LSW-1-5 (PPHP)</i></p> <p><i>To be consistent with Col 4. It is a PHPPS</i></p>	<p>The Humber River Bridge LSW-1-5 is a PHPPS; the text will be revised.</p> <p>HIAs will be conducted for 10/06 properties affected by Electrification (Union Station Train Shed, Credit River Bridge and Aurora GO Station) as part of the Electrification TPAP. During detailed design HIAs will be completed for 9/06 properties.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
	(Mile 1.20) to Mimico Station (p148) Table 4-25 Summary of LSW-1 Potential Footprint Impacts and Mitigation Measures (p148- 150)	<i>Project Activities: Structure is over 60 m, therefore OCS wires are to be attached to the bridge and installation of track portals are possible</i> <i>Potential Effect: Alteration: Displacement of heritage attributes and/or disruption of setting</i> <i>Avoidance/Mitigation/Compensation Measures:</i> <ul style="list-style-type: none">A CHER was completed and it was determined to be a Provincial Heritage Property of Provincial Significance.Conduct an HIA during the TPAP to identify potential impacts and appropriate mitigation measures when will it be completed? The HIA should be updated, if necessary during detailed design in consultation with MTCS and City of Toronto Heritage Preservation Services. The design should be updated to appropriately incorporate the recommendations of the HIA, in conclusion with MTCS and City. NOTE- the same statement is used throughout, and the same suggested revisions are recommended.	If required, the HIAs will be updated during detailed design in consultation with MTCS and City of Toronto Heritage Preservation Services as appropriate. The design will appropriately incorporate the HIA recommendations.
43	Volume 3 4.3.6 Corridor & Bridges: Section LSW-1 – West of Bathurst Street (Mile 1.20) to Mimico Station (p148) Table 4-25 Summary of LSW-1 Potential Footprint Impacts and Mitigation Measures (p148- 150)	<i>CHR#: Fork York HCD & NHS LSW-1-9</i> <i>(Adjacent Protected Property to the rail corridor and Strachan Avenue Bridge)</i> <i>Project Activities:</i> The OCS impact zone is confined to the rail corridor and as such, no direct or indirect impacts to heritage attributes associated with the Fort York HCD and NHS or were identified. In particular, no views north from the Fort, to or across the railway tracks, were noted as heritage attributes. No impacts to the heritage attributes associated with the Fort York HCD were identified as a result of OCS infrastructure or alterations to Strachan Avenue Bridge (see Appendix C2).7 <i>Avoidance/Mitigation/Compensation Measures:</i> Please note- as part of the UP Express Electrification, commitments were made to protect the views etc. to and from Fort York. Since there is some degree of overlap between projects we suggest the commitments from the UP Express EPR be reiterated in the current ERP.	The CH report for the UP Express EPR states: “As part of future site planning activities, attention should be paid to minimizing the visual impact of the paralleling station through sitting, height, mass, color, and introduction of visually sympathetic screening devices.” While potential impacts could result from OCS installation, the OCS impact zone is confined to the rail corridor and will involve the placement of gantries within the rail corridor. Some of the vegetation along the rail corridor will need to be removed. Following review of identified heritage attributes for Fort York HCD and NHS and the proposed OCS impact zone, no direct or indirect impacts to heritage attributes associated with the Fort York HCD and NHS were identified. In particular, no views north from the Fort, to the railway tracks or across the railway tracks, were identified as a heritage attribute of the Fort.
44	Volume 3 4.3.9 OCS & Bridges: Section LSW-4 – Port Credit Station to Clarkson Station (p157) Table 4-29: Summary of LSW-4 Potential Footprint Impacts and Mitigation Measures (158)	<i>CHR#: Credit River Bridge LSW-4-1 (PPHP)</i> Be consistent with Col4 – PHPPS <i>Project Activities: Structure is over 60 m, therefore OCS wires are to be attached to the bridge and installation of track portals are possible</i> <i>Potential Effect: Alteration: displacement of heritage attributes and/or disruption of setting</i> <i>Avoidance/Mitigation/Compensation Measures:</i> <ul style="list-style-type: none">A CHER was completed (as part of Electrification TPAP) and it was determined to be a Provincial Heritage Property of Provincial SignificanceConduct a HIA as part of TPAP to identify potential impacts and appropriate mitigation measuresThe HIA should be updated during detailed design, if necessary in consultation with the MTCS and the City of Mississauga Same comments as above	The Credit River Bridge LSW-1-5 is a PHPPS; the text will be revised. The HIA is currently under way. The design will be informed by the recommendations of the HIA. This report will be provided to MTCS for review and included in the Final EPR.
45	Volume 3 P 159	<i>A summary of the Credit River Bridge’s Cultural Heritage Value is provided below: (p159)</i>	Noted. The EPR will be revised per MTCS recommendation.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		it is not necessary to reproduce the CHVI in the body of the EPR. It is sufficient to reference the evaluation and append the SCHV.	All available SCHV were appended to the Draft EPR. Outstanding SCHV at the time of the Draft EPR Circulation will be included in the Final EPR document.
46	Volume 3 4.3.9.2 Net Effects (p 160)	<p><i>Displacement and/or disruption to identified cultural heritage resources at the Credit River Bridge <u>will be minimized by carrying out a HIA during the TPAP to identify potential impacts and appropriate mitigation measures for heritage attributes. During detail design, the HIA should be updated, if necessary based on final design in consultation with MTCS and City of Toronto Heritage Preservation Services</u></i></p> <p>This should be reworded. The HIA informs the design not the other way around. Suggested revised text:</p> <p>A HIA will be prepared to assess the potential impacts recommend appropriate mitigation measures to be incorporated into the detail design. If during detail design, it is determined that there may be unanticipated impacts to the CHR, then it may be necessary to prepare a further HIA will be prepared to recommend appropriate mitigation measures, and in in consultation with MTCS and City of Toronto Heritage Preservation Services.</p> <p>NOTE: Same comment for Net Effects for other bridges as well, e.g Sixteen Mile Creek Bridge, Bronte Creek Bridge, etc.</p>	<p>An HIA for the Credit River Bridge is currently underway; which will inform detail design.</p> <p>Language will be revised/added throughout the report to clarify that HIAs will inform the final design.</p> <p>The HIA will be included in the EPR and provided to MTCS once completed.</p>
47	Volume 3 4.3.10 OCS & Bridges: Section LSW-5 – Clarkson Station to Oakville Station (p 160) 3	The text around Joshua Creek Bridge needs to be consistent. For example, Table 4-31 (p 161) states it is a “Non-Heritage Property”; Table 4-32 says it is “Not a Metrolinx Heritage Property” (this means is may have CHVI but not owned by Metroilnx). Please clarify	The CHER determined that the Joshua Creek Bridge, which is owned by Metrolinx, does not meet O.Reg 9/06 and 10/06 and therefore is not a Provincial Heritage Property. The MHC accepted this recommendation. The report will be revised to clarify this.
48	Volume 3 4.3.10.2 Net Effects (162)	<p>Given that the Joshua Creek Bridge has <u>no Provincial heritage value (do you mean, “was determined to have no cultural heritage value or interest”), the Project will have no impact on the heritage value of this structure and an HIA is not required (how about, “no further impact assessment is required”). No net effects to cultural heritage resources are expected.</u> (this sentence is redundant. Suggest removing it.)</p> <p>Same comment for Net Effects of other “Non- Heritage Bridges” e.g Drury Lane Pedestrian Bridge, and other Corridors.</p>	Report will be revised to clarify per comment #47.
49	Volume 3 4.4 Archaeology (p169-170) 4.4.1 Burlington Tap Location and TPS (p169-170) – 4.4.1.1 Potential Effects and Mitigation Measures 4.4.1.2 Net Effects	<p>The information in these sections is not clear. It appears that the information is based on a Stage 1AA. Was the property inspection by ASI on June 13, 2015 as part of the Stage 1AA or some other archaeological assessment? Please clarify.</p> <p>It looks like what the EPR text is trying the say is that the property inspection as part of (Stage 1AA?) determined that a portion of the Burlington Tap location has been disturbed, removing archaeological potential. However, other portions of the site retain archaeological potential. For those portions of the site further archaeological assessment (e.g. Stage 2AA) is required. Please clarify the text or contact MTCS for further discussion.</p> <p>FYI - Typically a Stage 1 AA report includes clear results, conclusions and recommendations. This information is typically reproduced in the Executive Summary of the AA report. The AA report also includes mapping the shows the portions of land that retain potential and those that do not.</p> <p>Same comments on Kitchener Corridor: Bramalea PS (P352), and other Corridors.</p>	Please refer to response #15.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
50	Volume 3 10 CONSTRUCTION IMPACTS 10.4 Archaeology (p1277)	<p>Typically, MTCS advised that the following general commitments be included regarding “accidental finds” of archaeological resources or human remains.</p> <p>If any archaeological resources are encountered during the course of project work, all activities impacting archaeological resources must cease engaged to carry out archaeological fieldwork, in accordance with the Ontario Heritage Act and the Standards and Guidelines for Consultant Archaeologists.</p> <p>In the event that human remains are encountered during project work, all activities in the area will stop and the police, the coroner's office and the Registrar of Cemeteries will be notified immediately. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.</p>	This is included in the body of the Stage 1 Archaeological Assessment Report on page 139. A review of the summary provided in Volume 3 will be undertaken to ensure consistency.
51	Volume 3 10 CONSTRUCTION IMPACTS 10.4.3 Stage 2 Archaeological Studies (<p><i>“Stage 2 Archaeological Assessment Studies are being undertaken as part of the TPAP, where possible as detailed in Sections 3.4, 4.4, 5.4, 6.4, 7.4, 8.4 above and in the Stage 1 Archaeological Assessment Report contained in Appendix D. Based on the results of the Stage 2 studies, Stage 3 and/or 4 Archaeological Assessments will also be carried out as required.”</i></p> <p>Please provide further details as to when these AA will be completed and submitted the MTCS.</p>	Stage 2AA currently underway, pending PTE as outlined in the EPR, will be provided to MTCS once completed. Stage 3 and/or 4 Archaeological Assessments will also be carried out as required during detailed design and submitted to MTCS as documented in the EPR.
52	Volume 3 11. SUMMARY OF MITIGATION AND MONITORING COMMITMENTS Table 11-3 Summary of Cultural Heritage Mitigation and Monitoring Commitments (p1192) Table 11-4 Summary of Archaeological Mitigation and Monitoring Commitments (p1219)	<p>MTCS and Metrolinx are currently engaged in discussions that will have a bearing on our recommendations for future mitigation measures and or commitments. As such, MTCS will defer making further comments at this time. However, we expect to we will have further input over the coming months.</p>	Noted.

Table 1-23: Ministry of Transportation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MINISTRY OF TRANSPORTATION			
1	General Comment – Project Planning	<p>Planning and Design</p> <p>Metrolinx’s plans to electrify the rail network at various highway locations will impact many current on-going detail design projects included under MTO’s five year plans and preliminary designs. A list of MTO projects that will be impacted by Metrolinx’s electrification work will be provided at a later date.</p>	Acknowledged. The project team looks forward to receiving the list of MTO projects for review and consideration. It is requested that this information be provided by June 16 th .
2	General Comment – Project Planning	<p>Planning and Design</p> <p>In general, Metrolinx shall not delay the delivery MTO highway projects or cause constructor issues. All works proposed by the Metrolinx that fall within the highway corridor shall adhere to MTO design standards.</p>	Continued coordination with MTO will be undertaken as the project’s design progresses, as well as during detail design/construction. As noted in previous responses to MTO, issued on July 7, 2016 and November 4, 2016, Metrolinx will comply with MTO’s structural requirements and prohibitions on adhesive and mechanical/expansion anchors for overhead applications with sustained loads. Encroachment permits will also be obtained, as required in advance of fieldwork or construction. However the project is also required to comply with Transport Canada requirements and a minimum 3 metre setback will be required in some instances between the Overhead Contact System and the bridge fascia.
3	General Comment – Project Planning	<p>Planning and Design</p> <p>Existing clearance vertical clearances are as is. The structures can’t be raised without impacting the highway.</p> <ol style="list-style-type: none">It should be noted that crossings of the rail ROW (over or under) for the future 407 Transitway will need to be accommodated for. For example:<ul style="list-style-type: none">The Kitchener Line: Currently in the EA process. Structure location to be determined, but will likely cross the south side of Hwy 407.Stouffville Line: EA Approved. Crossing is located north of Hwy 407. As a note, possible relocation of the transit hub is being investigated and may shift the location of this crossing.Barrie Line: Currently in the EA process. Structure location to be determined, but will likely cross the south side of Hwy 407.Havelock Line: EA approval imminent. Crossing is south of Hwy 407.For the Barrie Line: A 25kV feeder route is proposed to run along the Barrie-Collingwood Railway ROW under Hwy 400 to the termination point of the Barrie corridor. During detail design, MTO should be consulted in addition to the City of Barrie and Barrie-Collingwood Railway, with respect to the feeder route being installed via aerial or underground plant through the MTO ROW. MTO’s vertical clearances, permitting and design standards should be adhered to as part of the design.As a general note, suggest highlighting MTO should be consulted when any modifications take place within MTO ROW and to MTO structures.	<ol style="list-style-type: none">Noted.<ol style="list-style-type: none">It is requested that MTO provide further details and/or drawings for Mx review and consideration with respect to potential crossing locations of the Kitchener Corridor and limits of study area by June 16th.It is requested that MTO provide further details and/or drawings for Mx review and consideration with respect to potential crossing of Stouffville Corridor and potential relocation of transit hub, including limits of study area by June 16th.It is requested that MTO provide further details and/or drawings for Mx review and consideration with respect to potential crossing of Barrie Corridor, including limits of study area by June 16thThe CPR Havelock subdivision is outside the scope/study area the GO Rail Network Electrification TPAP.Noted. Further coordination and discussions will be undertaken during detail design with respect to the Allandale 25kV Feeder Route once the preferred design (aerial or underground) has been confirmed. It should be noted that Metrolinx is also required to comply with Transport Canada clearance requirements. This language will be added to EPR Volume 5.Continued coordination with MTO will be undertaken as the project’s design progresses, as well as during detail design/construction.
4	Bridge Modifications	<p>Structural</p> <p>Embedded anchorage details and have the following comments:</p> <ol style="list-style-type: none">The Proponent is responsible for making sure that the concrete at the location of the anchors is in good condition and protected from delamination in the future due to corrosion of existing rebars.The Proponent is responsible for preserving durability and future maintenance/inspection of the anchors. The existing concrete may be contaminated with chloride.The Proponent is responsible for making sure that future rehab of the structure will not be obstructed due to the presence of the OCS anchors.	<ol style="list-style-type: none">Noted. As outlined in our letter to MTO dated November 4, 2016, Metrolinx’s Electrification project design/build contractor will comply with MTO’s requirement, through work that is in-line with MTO’s typical construction materials and requirements for the repair of deteriorated concrete/rebar.Metrolinx’s responsibility should be reasonably limited to dealing with the condition of those portions of the bridge where Metrolinx project-related attachments are made, and to employ material and construction requirements per a typical bridge owner’s project, toward preserving the durability and future maintenance of the work/installation. The future maintenance/inspection of the anchors would ultimately be the responsibility of Metrolinx (or their contractor), as they are required for Electrification. If there is a presence/level of chlorides in the portions of the bridge where the anchors are attached/installed, it’s probable that it’s also present in the surrounding area

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>4. The Proponent Is responsible to address the presence of stray current in any or all of these attachments.</p> <p>5. MTO had issued a policy memo limiting the use of adhesive anchors, particularly for overhead applications with sustained load.</p> <p>6. There is currently no approved product in the DSM for overhead applications. However, some manufacturers like Hilti have recently gone through more rigorous tests and have products that pass the most recent ICC requirements. Given the load for these anchors are relatively light, using adhesive anchor product is permissible (by calculations) provided they meet all ICC requirements and the installer has to be certified by ACI or equivalent. This is now a requirement of CSA A23.3-2014.</p> <p>7. The last drawing shows mechanical/expansion type anchors; MTO does not use mechanical anchors on bridges due to potential loosening under vibration and the presence of voids in the anchor.</p> <p>8. The Proponent is required to verify at anchor locations that the anchors installation will not damage any pre-stressing cables, void forms, etc.</p> <p>9. 9) The Proponent is required to provide calculations to demonstrate the adequacy of retrofitting the anchor design on existing structures.</p>	<p>that’s not directly affected by the localized installation of the anchors. If so, its detection and mitigation should not be Metrolinx’s responsibility. That is, if the level of chlorides are measured and trigger the bridge owner to mitigate/repair/rehab, it will likely encompass a larger general area (if not the most of/entire bridge) than the location of the installed anchors, and should not be borne solely by Metrolinx. Metrolinx will negotiate an agreement with MTO to establish responsibilities for maintenance and inspections.</p> <p>3. The physical presence of the third-party element (e.g., Metrolinx project’s OCS anchors, utility attachment/occupancy) will undoubtedly create a localized coordination issue between the third party and the bridge owner. Metrolinx will enter into a maintenance agreement with MTO to address this issue.</p> <p>4. As previously noted in MX’s November 4, 2016 response letter stray current is not an issue in an AC electrified environment.</p> <p>5. MTO’s policy memo (MTO Structural Manual Section 16.8.1) was reviewed; the Metrolinx electrification project will comply with this MTO policy. There are non-adhesive anchors that the project can use.</p> <p>6. Noted. The project’s design will comply with applicable requirements.</p> <p>7. The Electrification project will comply with MTO’s prohibition of mechanical/expansion anchors on MTO’s bridges.</p> <p>8. The Electrification project will comply with MTO’s requirement to verify that anchor installations will not damage any pre-stressing cables, void forms, etc. The contractor will be required to locate, through non-destructive testing such as with a pachometer, the location of the existing reinforcing, pre-stressing cables, etc. within the affected area of the attachment, and then avoid the element when drilling/locating/anchoring the attachment.</p> <p>9. Metrolinx will provide appropriate calculations to demonstrate the adequacy of retrofitting the anchor design on existing structures as part of the detailed design phase. As indicated during the November 10, 2015 meeting with MTO, loads are minimal as a result of bridge attachments. Regular maintenance/inspection will be undertaken. A maintenance contract may be established to identify frequency of inspection.</p>
5	Bridge Modifications	<p>Structural</p> <p>With respect to bridge barriers, it is not advisable to mount non-crash tested railing/barrier system on standard barrier walls. However, as an interim measure the Structural Manual allows them to be mounted on barriers provided a safety system is installed to prevent debris or broken pieces of the noise barrier from falling onto traffic below. The barrier system itself must not have any components that would break and intrude into the passenger compartment or cause undesirable restrained movement of the vehicle. In addition, the Proponent is required to verify (by calculation) the capacity of the deck cantilever and the exterior girder for additional dead load and wind load. The condition of the existing barrier and ongoing corrosion also needs to be verified by the Proponent.</p>	<p>As outlined in our letter to MTO dated November 4, 2016, the design of the protection barriers that are required for Electrification is currently underway; it will address the safety concerns expressed and will be coordinated with MTO. Appropriate calculations relative to the existing roadway bridge elements affected by the installation of the protective barrier will be provided to MTO, once available, for review/comment/acceptance. It should be noted that MTO already has applications of fencing for bridges, which the project’s design will consider.</p> <p>The requirement for maintenance is noted, and MTO and MX will need an agreement on maintenance.</p>
6	General Comment	<p>Environmental</p> <p>No concerns at this point.</p>	Noted.
7	Property Impacts	<p>Property</p> <p>Property Section has no comments unless there is a direct property concern identified by Metrolinx.</p>	Noted.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
8	Stormwater Management	<p>Drainage and Storm Water Management Plan</p> <p>MTO is concerned that the third track will require culvert extensions or addition of new culverts, and this will have a negative impact on the high water elevations experienced at the 401. We request that the work include a review of hydraulic impact on upstream lands (MTO) and that proposed works ensure that no negative impact results on the highway drainage system.</p>	<p>As described in the EPR, no changes in track alignment or the provision of additional culverts is included in the scope of work of the Electrification TPAP. As such, no new culverts or extensions are proposed.</p> <p>It appears that MTO is referring to the provision of a new third track as part of the Lakeshore East Rail Corridor Expansion project (Guildwood to Pickering). Hydraulic impacts were considered as part of the approved TPAP and documented in the Final EPR available at:</p> <p>http://www.metrolinx.com/en/regionalplanning/rer/guildwood-pickering.aspx</p> <p>This comment has been shared with the Guildwood to Pickering project team for continued coordination with MTO as required.</p>
9	Project Construction	<p>Highway Corridor Management</p> <p>An MTO encroachment permit is required for any proposed works within an MTO Right of Way (for example, if the recommendations of the study necessitate rehabilitation or replacement of any sewers that cross the Hwy. 401 corridor). Survey work and any preliminary investigative engineering work (e.g. boreholes, coring) also require MTO Encroachment Permits. For further information on encroachment permits, please refer to the following link:</p> <p>http://www.mto.gov.on.ca/english/engineering/management/corridor/encroach.shtml</p> <p>For work which is to take place outside the MTO Right-of-Way, but within the Ministry of Transportation’s permit control area, the owner / applicant will require an MTO Building & Land Use Permit. This applies to any development, entrance, change of entrance use, building or structure within 45 metres of the provincial highway property line or within 395 metres of the centre point of an intersection or interchange with a provincial highway. In addition, construction on these lands must not commence prior to the issuance of the necessary MTO permits.</p> <p>Any proposed structures (above or below ground) or amenities which are essential to the viability of the site (e.g. utilities, frontage roads, fire routes, parking, stormwater management ponds) must be set back a minimum of 14 metres from the highway property line. In locations where the Ministry currently has plans for future highway widening that will require additional land, the minimum 14 metre setback is to be taken from the future highway property line.</p> <p>MTO Sign permits are required for any signs which are visible from Highway 401 and other new 400 series highways and within 400 metres of the highway property line. This requirement includes alterations or location changes of existing signage. For more information on MTO sign permits including submission requirements and application forms, please refer the applicant to the following link:</p> <p>http://www.mto.gov.on.ca/english/engineering/management/corridor/signs.shtml</p>	<p>As outlined in our letter to MTO dated July 7, 2016, Metrolinx will ensure that all appropriate permits are obtained during detailed design in advance of fieldwork or construction activities.</p> <p>Metrolinx will ensure that all appropriate permits are obtained during detailed design in advance of fieldwork or construction activities.</p> <p>A minimum setback of 3 metres (m) is typically provided from the bridge fascia to the nearest Overhead Contact System (OCS) support structure to account for varying site conditions, as well as track and OCS geometries/design requirements. The OCS structure setback of 3 m from the bridge fascia is not governed by code requirements; rather it is dependent upon the electrical clearance requirements of the overhead contact system to the grounded bridge structure as stipulated by both AREMA and CSA. The OCS structure setback of 3 m is an industry standard practice to achieve a “free running” catenary design approach where the OCS wires do not attach to the bridge soffit. The minimum 3 m offset is then adjusted based on civil site conditions and restraints and also as necessary to optimize the OCS layout to provide the greatest amount of efficiency while also maintaining the required electrical clearance to ensure both public safety and operational restrictions of the railroad.</p> <p>In the event OCS structures need to be relocated in the future due to highway widening MTO and Metrolinx can work together to achieve a mutually beneficial design solution.</p> <p>Note that the 14 meter set back requirement cannot be met without having to increasing the number of OCS attachments to the bridge.</p>

Table 1-24: Ontario Power Generation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
ONTARIO POWER GENERATION			
1	Project Design – Rolling Stock	I'm just wondering if the scope of the project is open to consideration of other ways of electrification or specific to an overhead catenary system? Advancement is hydrogen fuel cell technology could make this a viable option for GO trains and should be considered.	Metrolinx is continually reviewing technological advances to ensure that we are implementing the most current technology to improve our GO service to residents in the Greater Toronto and Hamilton Area. At this time, we are completing a network- wide environmental assessment to electrify the GO service to get even more people moving.
2	General Comment	Overall, we support electrification as part of Ontario's low carbon economy and climate change strategy.	Thank you for your comments and support for the Network Electrification project.

1.2.7.4 Municipal Review Agency Comments Received on Draft EPR

Tables **Table 1-25** to **Table 1-47** below contain each comment (verbatim) submitted by each municipal review agency as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate).

Table 1-25: City of Barrie Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF BARRIE			
1.	Noise Mitigation within City Limits	Noise mitigation has not been indicated along the railway corridor within the City of Barrie boundary (Appendix G – Table 3A, 3B, 6A, 6B and Appendix S4 BR-166 to BR-176). The City requests further background information on why noise mitigation has not been recommended. In reviewing the Barrie Rail Corridor Appendix G Figures, a number of similar residential areas outside of the City of Barrie boundary have been identified as “noise mitigation has not been recommended”. In reviewing the Barrie Rail Corridor Appendix G Figures, a number of residential areas outside of the City of Barrie boundary have been identified as “noise mitigation location – technically feasible”. We would like a better understanding of the differences between these residential areas and the City’s residential areas where no noise mitigation is noted.	<p>For the rail noise assessment, there are two primary factors influencing the noise mitigation north of Aurora and north of Barrie South: the number of trains, and the use of horns. These two factors together, result in no mitigation being required for the rail noise assessment north of the Barrie South station.</p> <p>Sound from the project is evaluated as the difference between the pre-project noise and the post-project noise. If that change is found to be greater than 5 dB, noise walls are investigated. There are a couple reasons that a 5 dB change was not predicted north of Barrie South station. First, south of Aurora station the number of trains increased more than 10 fold, while north of Aurora station, the number of trains increased less than 4 fold. This resulted in less mitigation required north of Aurora. Secondly, mitigation north of Aurora was primarily a result of horn noise at crossings. There are no horns sounded between Barrie South and Allandale Station, and changes were all predicted to be less than 5 dB. Therefore, no mitigation was investigated.</p> <p>For the layover facility noise assessment, mitigation is required north of the Barrie South Station for the Allandale layover facility. Mitigation is required as noise impacts at nearby receptors were above the MOEE/GO Protocol applicable exclusion limit of 55 dBA for layover facilities. This barrier is illustrated in Figure 5 of the Barrie N&V Modeling Report (see Appendix G).</p>
2.	Noise Mitigation within City Limits	The City requests that Metrolinx consider noise mitigation for residential areas (both existing and planned) from Allandale Station to the City limits at Lockhart Road. If required, the City can provide additional details pertaining to existing and planned residential areas. We have attached Schedule I – Intensification Areas from the Official Plan and the approved Hewitt’s Secondary Plan (Attachment #1).	Approved planned developments were evaluated based on aerial imagery assessment (i.e. if construction of a new development was visible). Receptors are placed in representative areas, so in some areas where future residential does not appear to have been considered, it is likely that nearby representative receptors were considered to sufficiently predict impacts on potential development. As part of refinements to the Draft Environmental Project Report (EPR), Metrolinx is currently undertaking a subsequent review to determine whether additional data may be available on approved residential developments in the vicinity of the rail corridors such as Approved Plans of Subdivision. Based on the results of this review, updates to the Noise/Vibration Reports may be required; any updates to the Noise/Vibration reports will be reflected in the Final EPR and made available for public review.
3.	City of Barrie Noise Mitigation – Missing Figures	It appears that Appendix G, Part 4 – Barrie Impact Assessment Report did not include a complete set of Figures as the series 3 and 4 figures terminate at Mile 58.0. Specifically, we suspect Figures 3-22, 3-23 and 3-24 Barriers for Diesel RER and Electrification Investigation and Figures 4-19, 4-20, 4-21 Barriers Deemed Technically Feasible for Diesel RER and Electric RER are missing from the report. These missing figures represent all lands within the City of Barrie.	<p>Metrolinx has confirmed that the Figure set provided is complete.</p> <p>For the rail noise assessment there were no barriers investigated north of Mile 59, and therefore, no figures were generated for these areas in Figure sets 3 and 4 within the Barrie N&V Modeling Report (see Appendix G).</p> <p>For the layover facility noise assessment, there is a barrier investigated for the Allandale layover facility within the City of Barrie. This barrier is illustrated in Figure 5 of the Barrie N&V Modeling Report (see Appendix G).</p>
4.	City of Barrie Noise Mitigation – Missing Figures	Based on the series of 4 figures (Figures 4-1 to 4-18), new mitigation barriers are recommended for residential areas within Aurora, Bradford and Newmarket. These areas exhibit similar characteristics to residential areas within the City of Barrie, yet the overall change in noise from existing conditions to the future condition RER scenario is listed as being less than 5db thus, from our understanding of the eligibility criteria would preclude inclusion of noise barriers. The City wishes to gain a better understanding of how the existing and future condition noise levels are established.	<p>Existing (or pre-project) sound levels in these areas were determined from modelling the existing train volumes of GO trains and freight trains. The future (or post-project) sound levels were determined from modelling the RER train volumes. The difference between the Diesel RER and Electric RER scenario is the modelled sound level of a diesel locomotive compared to a quieter electric locomotive.</p> <p>The primary difference between sound predicted in Barrie and sound predicted in Aurora, Bradford, and Newmarket is the use of horns at crossings. In Aurora, Bradford, and Newmarket mitigation was primarily triggered by the use of horns at crossings. There are no horns sounded at crossings north of the Barrie South station.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
5.	City of Barrie Noise Mitigation – Missing Figures	<p>The following lists highlights similar residential areas outside of the City boundary recommended for noise mitigation:</p> <p>Appendix S4 – Barrie Noise Mitigation Map</p> <p>Examples of similar areas being provided sound mitigation: BR-84, 85, 86, 87, 97, 98, 99, 104, 105, 106, 107, 109, 110, 111, 159 (representative non-inclusive list).</p>	<p>The primary difference between sound predicted in Barrie and sound predicted in Aurora, Bradford, and Newmarket is the presence of horns at crossings. In Aurora, Bradford, and Newmarket mitigation was primarily triggered by the use of horns at crossings. There are no horns sounded at crossings north of the Barrie South station.</p>
6.	Noise Receptors	<p>There appears to be inadequate noise receptors to assess the quantity of noise sensitive areas within the City boundary. From the review of noise receptor locations, it appears that R130 is placed too far from the tracks resulting in lower overall noise levels. The listed receptor distance is 80m from the tracks where as the representative distance for a home backing onto the tracks is 50m (back wall of home to centerline track) and 35m (outdoor living area to centerline of track).</p>	<p>The receptors presented in the report represent a very small subset of the receptors included in the assessment. Thousands of individual receptors were modelled along the Barrie corridor. Between Barrie South and Allandale Station, approximately every fifth residence in the first row of houses was modelled on both sides of the railway.</p> <p>With respect to receptor R130, other receptors in this neighborhood were evaluated, and were (as noted in the question) approximately 50 m from the railway. Sound levels at these closer receptors were approximately 0.5 dB louder, not enough to trigger a 5 dB change and investigation of mitigation.</p>
7.	Noise Receptors	<p>Please provide rationale for noise receptor placement and outline the approach utilized to specify the number of noise receptor; our review noted 4 noise receptors (along the rail corridor) within the City limits (approximately 7km corridor length) as compared to 15 noise receptors in the Town of Newmarket (approximately 6km corridor length). The review also noted that noise sensitive receptors were missed including the Serenity Retirement Residence (410 Hurst Drive), Tollendal Extended Care and Seniors Residence (274 Hurst Drive), and Saint John Paul II Separate School (211 Ashford Drive).</p>	<p>The receptors presented in the report represent a very small subset of the receptors included in the assessment. Thousands of individual receptors were modelled along the Barrie corridor. Between Barrie South and Allandale Station, approximately every fifth residence in the first row of houses was modelled on both sides of the railway.</p> <p>Generally, less detail was presented in the report where barriers did not need to be investigated. Greater detail was required to be presented in the report in some areas to accurately convey the feasibility and selected geometry of barriers.</p> <p>410 Hurst Drive – This receptor was not explicitly assessed. However, receptors south of this building on Wallwins Way, which are significantly closer to the track, were evaluated and found not to require mitigation. These results would also hold true for 410 Hurst Drive.</p> <p>274 Hurst Drive – Although this receptor was not included in the reporting, this receptor was evaluated explicitly in the assessment and found not to require mitigation.</p> <p>211 Ashford Drive - This receptor was not explicitly assessed. However, receptors north of this building on Dodson Road, which are much closer to the track, were evaluated and found not to require mitigation. These results would also hold true for 211 Ashford Drive.</p>
8.	Noise Receptors	<p>The City wishes to review noise sensitive areas with Metrolinx</p>	<p>Acknowledged. Metrolinx will be happy to meet with the City and discuss any concerns.</p>
9.	Appendix R4 – Land Use Designations	<p>The land use designations between Lockhard Road and Mapleview Drive are incorrectly identified as agriculture (BR-97, BR-98). These lands form part of an approved secondary plan and is designated for residential and mixed use areas with low, medium and high densities. Please review the attached secondary planning land use figure (Attachment #2).</p>	<p>The present land use was previously identified as part of the Town of Innisfil as per their 2011 Official Plan. The updated boundary noting this land annexation was not previously included in the information obtained from the City of Barrie in early 2016. However as this area (Hewitt’s Secondary Plan) has changed from what is included in the report, the Land Use Designation Maps (Appendix M and Appendix E) will be updated accordingly.</p>
10.	Railway Dimensional Clearance for BCRY Operation	<p>BCRY requests that Metrolinx shall afford the minimum clearance set out in Diagram 1 (https://www.tc.gc.ca/eng/railsafety/standards-tce05-233.htm#diagram_1) as per Transport Canada’s Standard Respecting Railway Clearance.</p>	<p>Transport Canada clearance requirements will be adhered to along the Barrie Collingwood Railway.</p>
11.	Allandale Traction Power Station (TPS) – Flood Protection	<p>The City recommends that Metrolinx complete a detailed analysis of the identified site to quantify flooding risks and incorporate mitigation measures to safeguard critical infrastructure from flooding. Proposed works shall adhere to City Drainage policies (http://www.barrie.ca/Doing%20Business/Development-Services/Documents/City-</p>	<p>Appendix K – Preliminary Stormwater Management Report (Traction Power Facility Sites) has outlined the preliminary stormwater management plan for quantity control measures. However, as noted in the Draft EPR further details regarding flooding risks and mitigation measures to safeguard critical infrastructure from flooding will be provided at subsequent detailed design phase which will occur after the Transit Project Assessment Process (TPAP). The City will be engaged in the final design process as appropriate.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Standards/StormDrainageandStormwaterManagementPoliciesandDesignGuidelines.pdf) and requirements of the Drainage Act.	
12.	Allandale TPS – SWM Appendix K, Section 3.4.1	The City understands that the assessment completed in Appendix K is preliminary in nature and states that the required criteria for quantity, quality, water balance, erosion and LID volume control (LSRCA and proposed MOECC requirement) can be achieved through lot level source controls based on Low Impact Development (LID). In Section 3.4.1 it is noted that the majority of the Allandale TPS will be founded on a gravel pad. Please note that granular surfaces tend to compact over time and cannot be relied upon for infiltration (they should be treated similarly to asphalt for runoff calculations). Alternative materials such as clear stone could be considered as it typically maintains void space provided care is taken to prevent mud/sediment from clogging the clear stone pad.	As noted in the Draft EPR, the SWM analysis will be updated and refined during detailed design, including consideration of relevant runoff coefficients based on type of material utilized.
13.	Allandale TPS – SWM Appendix K, Section 3.4.1	As part of detailed design, the City requires proponents to adhere to the City of Barrie’s Stormwater Management and Drainage Policy. This includes utilization of the City’s IDF curves, which account for climate change. A geotechnical investigation including groundwater level monitoring will need to be conducted to validate LID implementation.	The most up to date IDF curves were used from the MTO website to compute runoff values. As noted in the Draft EPR, the SWM analysis will be updated to incorporate the City’s IDF curves as appropriate during the detailed design stage. Geotechnical investigations, including groundwater level monitoring, will also be conducted as part of detailed design to validate proposed mitigation measures; the Preliminary SWM Assessment Report, as well as Volumes 3 and 5 of the EPR will be augmented accordingly to note this.
14.	Allandale 25kv Transmission Feeder: Potential Wastewater Treatment Plant Secondary Connection	The City operates a wastewater treatment facility in close proximity to the Allandale Station. The facility presently has a grid connection with generator backup power. At a high level, staff are considering the feasibility of a secondary grid connection. The City wishes to have a preliminary discussion for the potential of a secondary grid connection to the proposed feeder lines	To clarify, the wastewater treatment facility will be a distribution connection, not a grid connection. There is often a confusion in the terminology. The 25kv feeder will be owned/operated by Metrolinx for purposes of railway electrification. It is single phase operation and not suitable for generation connection. The City should contact the Local Distribution Company for the Barrie area (Alectra formerly Powerstream Utility) for information.
15.	Allandale 25kv Transmission Feeders: Allandale TPS to Allandale Station – Installation Method	The City requests that the transmission line be installed underground from Innisfil Street to the Allandale Station as this area is designated an Urban Growth Centre with a specified density of 150 persons/jobs per hectare. Taking measures to prevent implementation of intrusive visual impacts will greatly support the planned growth in this area, gentrification and transition to designated mobility hub.	At this time Metrolinx cannot commit to burying the feeder line. Metrolinx would be happy to meet with the City of Barrie to discuss this issue.
16.	Allandale 25kv Transmission Feeder: Underground Road Crossing Details – Anne Street, Innisfil Street and Essa Road	The City is completing detailed design of Essa Road, Innisfil Street and Anne Street (streets cross BCRY corridor where transmission feeder will be routed). In an effort to prevent damage/disturbance to newly constructed roads, the City would seek to work with Metrolinx and pre-install crossing infrastructure to Metrolinx standards. Construction is scheduled for 2017.	Metrolinx does not anticipate impacting the road infrastructure along the BCRY for electrification infrastructure. Should there be additional impacts to the newly constructed infrastructure Metrolinx would work with the City to address the impacts. The Electrification Project Team acknowledges that discussions for the modification of the Beeton Spur as a result of the Barrie Rail Corridor Expansion (BCRE) project are ongoing. This work is being coordinated by both Metrolinx project teams.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
17.	TPAP EPR – Volume 3 – Section 6.5.2	<p>This section does not identify the City’s planning designation bounded by Innisfil Street to Allandale Station, which is an Urban Growth Centre with a specified density of 150 persons/jobs per hectare and is anticipated to transition to a mobility hub with medium to high residential density due to the proximity to the Allandale Station. Implementation of an overhead transmission feeder would negatively impact development potential as well as residents (existing and planned).</p> <p>As previously noted the City requests that the Allandale 25kv Transmission feeder be installed underground from Innisfil Street to Allandale Station.</p>	<p>This section of EPR Volume 3 discusses land use designations as cited in the Official Plan, as well as zoning from the Zoning By-Law schedules. However a description of the City Centre Revitalization Plan for this area will be added to our description of the corridor, TPS and Feeder Routes within the baseline information in EPR Volume 2, as well as within the Land Use and Socio-Economic Report (Appendix E). As there are no land use footprint effects related to the above ground feeder line, the City Centre Revitalization Plan will also be considered in the Visual Assessment Report (Appendix G) and the report will be updated as required.</p> <p>Regarding the installation of the Allandale 25kV feeder underground, see the response to Comment #15.</p>
18.	TPAP EPR – Volume 3 – Section 6.5.2	<p>Please review the Metrolinx Rail Corridor Expansion Project for City land use. Section 3.2.8 Socio-Economic Land Use, specifically section 3.2.8.4</p>	<p>Section 6.5.2 of Draft EPR Volume 3 discusses existing land use as cited in the City of Barrie Official Plan and Zoning By-law schedules along the proposed Allandale 25 kV feeder route (along the Barrie Collingwood Railway). The Metrolinx Barrie Rail Corridor Expansion project study area does not overlap with the Barrie Collingwood Railway (BCRY) 25kV feeder route area. As such, there is no need to review the Barrie Rail Corridor Expansion project report for information on land use along the Barrie Collingwood Railway (BCRY) 25kV feeder route.</p>
19.	Public Consultation	<p>The City encourages Metrolinx to communicate directly with property owners adjacent to the Allandale TPS, 25kv Feeder and rail corridor via letters to ensure the directly affected public is aware of the Electrification Project</p>	<p>All property owners within 100m of the electrification study area were notified of the project as part of outreach/advertisement efforts undertaken by Metrolinx for Public Meeting #1 in Feb/Mar 2016 and Public Meeting #2 in November 2016. Additionally, newspaper ads were placed in the Barrie Advance and Barrie Examiner newspapers on February 4, 2016 and October 27, 2016 respectively to invite and encourage interested persons to attend the public meetings to provide feedback and ask questions about the project. Furthermore, the project website has been updated throughout the project to advise the public of project activities and updates. Please refer to EPR Volume 4 for a detailed summary of all consultation activities associated with the project to date. For the proposed change to the Allandale tap, and for the TPAP Notice of Commencement, a mailer was distributed to nearby residents. A copy of this letter is attached.</p> <p>Also see response to comment #27 regarding consultation along the Barrie Collingwood Railway (BCRY) 25kV Feeder Route specifically.</p> <p>As part of the Electrification TPAP, potential effects related to construction activities were identified and mitigation measures proposed to minimize these effects. These measures (as outlined in the Draft EPR, Volume 3) will be implemented during the construction stage to limit potential impacts to the extent possible.</p> <p>In addition, Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.</p> <p>We will continue to engage and communicate with stakeholders beyond TPAP completion. For example:</p> <ul style="list-style-type: none">• We will engage with affected communities along the rail corridors with respect to next steps for determining areas where noise/vibration mitigation is recommended and the form/type of mitigation to be implemented;• We will develop traffic, parking, transit, cycling and pedestrian management strategies to be included in construction contract documents in coordination with Municipalities, as appropriate, to avoid/minimize interference to the extent possible, and• We will engage Municipalities during construction planning to ensure that any municipal concerns are addressed in the construction plans prior to commencement of construction activities. <p>As part of the continuous public engagement, we will maintain the Electrification project website throughout the detailed design and construction phases where the public can access updated information on the project.</p>
20.	Corridor Safety with respect to Prohibiting	<p>The City request that Metrolinx consider completing an assessment of corridor safety and take measures to address existing deficiencies and enhance where possible to prevent and encourage corridor trespassing. As the City has requested noise barriers in residential areas, this may greatly enhance Metrolinx efforts to restrict corridor access.</p>	<p>Public and operational safety is of the utmost importance. As such Metrolinx will be reviewing additional security and safety measures as part of an Operations Framework for RER service. With electrification, Metrolinx will be securing its rail corridors by installing security fencing to prevent illegal trespassing across the rail corridor. That said, due to the geographical scale of the GO Rail Network it is not envisioned that all adjacent properties will be fenced to restrict access.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
	Pedestrians Access		<p>The height of the portals/cantilevers used to support the Overhead Contact System (OCS) wires over the electrified tracks will range between approximately 7.6m to 12m above the top of the highest rail. Contact wire height will range from 6m to 7.6m. As such, the height of the wires will not be reachable from ground level.</p> <p>In addition, as part of electrification, bridge protection barriers and horizontal barriers will be installed to protect pedestrians and travelers/infrastructure users within the public right-of-way on bridges and adjacent walkways from direct contact with adjacent live parts of the OCS for voltages up to 25 kV to ground. In addition, these barriers protect against damage to the OCS passing under bridges by providing an obstacle to debris that may be thrown onto the railway from overhead. The length of the protection barrier will extend a minimum of approximately 3m laterally beyond the live parts of the overhead contact system, on either side the bridge. The barriers will be made of solid-faced material, and will be a minimum height of approximately 2m (barriers of greater heights may be required in areas where vandalism is prevalent). High voltage signage will also be provided as an additional safety measure. Metallic elements of the protection barriers will be grounded and bonded to the static wire in minimum two locations.</p> <p>The Electrification project is proposing one noise barrier in Barrie, adjacent to the Allandale layover. Refer to the response to Comment #1.</p>
21.	Grade Separated Rail Crossing Cost Sharing and Assessments	The City requests a meeting with Metrolinx staff to discuss cost sharing opportunities associated with the grade separated crossings as well as the assessment proves for level crossings to determine if a grade separated crossing is necessary.	<p>Metrolinx is happy to meet with the City of Barrie to discuss. As shared pieces of infrastructure, it is expected that costs associated with grade separations will be shared between the rail and road authorities. Under Canadian Transportation Agency guidelines, the agency that requires the grade separation is responsible for 85% of the basic costs. Where there is mutual benefit, parties share costs 50% each. Also by agreement other arrangements are possible. Metrolinx will continue to work towards cost sharing agreements with municipal partners for each location in a manner in keeping with CTA guidelines.</p> <p>The Metrolinx Future Grade Separation Feasibility Study is a separate initiative and is outside the scope of work for the Electrification TPAP. Notwithstanding this we have provided the following information for your use/reference:</p> <p><i>Metrolinx will undertake a study that will assess the outcomes of service planning work related to RER and planned corridor infrastructure improvements to arrive at specific recommendations for each level crossing on the network. This work will include a risk assessment for each location.</i></p> <p><i>These recommendations will become the basis for further consultation with municipalities and community members to inform specific plans for each level crossing, which would be subject to agreement.</i></p> <p><i>The initial phase of this work (Level Crossings Plan) will take approximately six months and a draft plan for crossing improvements is expected in late 2017. The draft plan will be further refined with the addition of final details, cost estimates and a proposed</i></p>
22.	Multi-Modal Active Transportation Master Plan Update	The City is undertaking an update to the Multi-Modal Active Transportation Master Plan and kindly request Metrolinx participation similar in manner to the City's participation in both the Electrification and Rail Corridor Expansion projects. The City seeks to build upon and enhance the cooperative and collaborative relationship with Metrolinx	Regional Partnerships will serve as the City of Barrie's primary contact with Metrolinx's Planning & Policy division. We will ensure that we connect with any other relevant units within Planning & Policy as necessary in order to provide input into the City of Barrie's Multi-Modal Transportation Master Plan project. Please direct any future updates and communications to Aslam Shaikh, at Aslam.Shaikh@metrolinx.com . We look forward to the opportunity to collaborate and to foster the partnerships between Metrolinx and the City of Barrie.
23.	Infrastructure Improvements/Utility Conflicts	The City requests further detail on the planned implementation of bridge improvements (pedestrian barriers and underdeck flash plates) as well as addressing the identified municipal infrastructure conflicts.	Metrolinx can schedule a meeting to discuss these topics with the City.
24.	Allandale Station/Layover Facility	It is noted that the trees planted adjacent to the Metrolinx layover facility along Lakeshore Boulevard will be within the vegetation clearance zone for electrification. The City wishes Metrolinx consider options to maintain these trees or implement other green screening options that enhance the esthetics of the City's waterfront parks.	A Vegetation Clearing Zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The Vegetation Clearing Zone entails vegetation removals within the area encompassed by the overhead contact system/2 X 25 kV feeders plus an additional 2 metre offset area on either side of the OCS components or 2 X 25 kV feeders. As a result, the total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>either side of each rail corridor. The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final OCS design.</p> <p>Vegetation clearing is required to:</p> <ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue.Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment; <p>With regard to mitigating the effects of vegetation/tree removals, as outlined throughout Volume 3 of the EPR and specifically in Vol 5 Section 1.7.5:</p> <p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal Lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p> <p>As part of the project Metrolinx also completed a Visual Assessment Report (refer to Appendix G).</p>
25.	Additional Parking Opportunities at Allandale Station	The City wishes to obtain further information on the update to the 2013 GO Rail Parking and Station Access Plan	<p>In late 2016, the Metrolinx Board of Directors approved the GO Rail Station Access Plan which is the update to the 2013 Station Access Plan. The recommended target for 2031 in the medium-term is: add 1,750 spaces via alternative parking solutions for a total of 3,220 spaces. Metrolinx will continue to work with Town staff on alternative parking arrangements.</p> <p>The final 2016 Station Access Plan can be accessed online at:</p> <p>http://www.metrolinx.com/en/regionalplanning/projectevaluation/studies/GO_Rail_Station_Access_Plan_EN.pdf</p>
26.	TPAP Draft EPR Volume 5 – Section 1.8.2.1	Discharge from construction dewatering activities must adhere to the City’s sewer use By-Law 2012-172 (http://www.barrie.ca/City%20Hall/ByLaws/BylawDocs/By-law%202012-172%20Bill%20178.pdf).	<p>Reference to the City’s sewer use By-Law will be added to Volume 5. It should also be noted that the Contractor will be required to comply with applicable legislation during construction.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
27.	Requirements of City of Barrie	What exactly do you need from the City in terms of approval or response? Outside of the use of the BCRY corridor and the associated agreement; what are you looking for from the City.	As outlined in our email to the City dated March 3, 2017, with regards to a response from the City of Barrie, outside of the BCRY agreement, Metrolinx is seeking comments on the draft Environmental Project Report (EPR) which was circulated to review agencies and municipalities to determine any potential areas of interest or concern.
28.	Consultation	<p>Also, can you provide a summary of the public consultation concerning the feeder from the TPS to the Allandale Station:</p> <ul style="list-style-type: none">• Could you provide details on the mail out limits.• Were specific letters sent or generic notices advising of the PIC? Can you send a copy of either?• If specific letters were sent; did they clearly state that Metrolinx is proposing to install two parallel 25kv transmission lines from the TPS to the Allandale Station? <p>If the intent to go overhead was clearly stated in letters to directly affected property owners; did you receive any negative responses?</p>	<p>As outlined in our email to the City dated March 3, 2017, the first round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from February 16, 2016 – March 22nd, 2016. On February 23rd, 2016 a meeting was held in Innisfil at Nantyr Shores Secondary School, and on March 3rd, 2016 a meeting was held in Barrie at the Holly Community Centre.</p> <p>To provide notification of the public meetings, Metrolinx compiled a comprehensive contact list containing contacts representing various stakeholder groups (copy of notification dated February 1, 2016 was provided in the email sent to the City on March 3, 2017):</p> <ul style="list-style-type: none">A. Property owners within 30m of the TPAP Study Area;B. Members of the public who participated in past related Metrolinx EA projects (e.g., UP Express Electrification TPAP);C. Community groups, ratepayer associations, business improvement associations, local businesses, etc.;D. Relevant Federal, Provincial, and Municipal Review Agencies;E. Elected officials whose riding is within the study area, including Members of Parliament (MP), Members of Provincial Parliament (MPP), and Municipal Mayor’s and Councilors ;F. Indigenous communities; andG. Utility companies. <p>The second round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from November 7, 2016 – November 29, 2016. On November 21st, 2016 a meeting was held in Barrie at Innisdale Secondary School. For this round of public meetings, Metrolinx went beyond the recommended 30m requirement and sent mailers to property owners within 100m of the Study Area. Mailers were sent via Canada Post Smartmail Marketing Campaign. Over 500,000 addresses were included in the 100m study area mail out (a copy was attached in the email sent to the City on March 3, 2017).</p> <p>For both rounds of public meetings, Newspaper advertisements were also circulated to newspapers such as: the Barrie Advance, the Barrie Examiner, the Innisfil Examiner, and the Innisfil Journal. Copies were provided in the email sent to the City on March 3, 2017. The newspaper advertisement included a Study Area map which showed potential locations for the electrical power supply and distribution facilities. The technical details regarding the installation of parallel 25kV transmission lines from the TPS to the Allandale Station were not shown in the notifications or newspaper advertisements, as the decision to have two poles is only a decision made as of late. However, the concept of a “feeder route” along the BCRY, and the fact that new infrastructure including a pole(s) and wire along the BCRY was discussed and presented to the public at the public meetings held in the relevant areas.</p> <p>The intent to go overhead was not determined until; as mentioned above, as of late, and was not clearly stated in the letters. As a result of this no negative feedback was received. During detailed design Metrolinx will work with the City of Barrie to further assess if burying the cable is feasible or not.</p> <p>As mentioned with City of Barrie staff at the meeting on February 22nd, 2017, based upon engineering analysis and the fact Metrolinx does not own or maintain the BCRY track, Metrolinx’s preferred installation is an overhead twin pole feeder route. The goal until that time is for Metrolinx and City of Barrie to enter into an agreement to allow Metrolinx (at a future date) to install this “feeder route” and work collaboratively to determine the design and risk mitigation of that feeder route.</p> <p>At the first round of Pre-Planning Phase public meetings, the intent was to: provide an initial overview of the TPAP, introduce project timelines, share a scope of the EA studies and electrification infrastructure requirements, address any preliminary comments, and obtain feedback that could be used to improve project implementation. As a result of the feedback from the</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>first round of Pre-Planning Phase public meetings, the focus of the second round of Pre- Planning Phase public meetings focused on:</p> <ul style="list-style-type: none">• Update project timelines;• Update on conceptual electrification design;• Noise impacts (increased service) and draft mitigation options to be considered;• Vegetation/Tree removal impacts and draft mitigation options to be considered; and• Visual/Aesthetic impacts and draft mitigation options to be considered. <p>The display panels shown at the public meetings with information pertaining to the Allandale Tap/TPS were attached to the email sent to the City on March 3, 2017.</p> <p>The public meeting information can also be found online at:</p> <p>Public Meeting #1 https://www.metrolinxengage.com/en/content/barrie-corridor</p> <p>Public Meeting #1 – Summary Report http://www.gotransit.com/electrification/en/20160530_GORailNetworkElectrification_TPAP_PublicMeeting1_SummaryReport_EN.pdf</p> <p>Public Meeting #2 https://www.metrolinxengage.com/en/content/innisdale-secondary-school-95-little-ave-barrie</p>
29.		For ease of tracking, the City has included a comment tracking log containing comments and responses generated from the City’s June 23,2016 letter (Attachment #3)	Noted. These comments have been included below.
30.	Vegetation Clearing	<p>Original City Comment: Is the proposed transmission line overhead or underground, what trees need to be removed?</p> <p>Metrolinx Response: As discussed on the July 28 2016 conference call, the proposed 2 x 25 kV Feeder route will extend from the proposed Allandale TPS facility, where the route will cross Patterson Road as well as Highway 400 along the existing Barrie-Collingwood Rail ROW to the end of the GO Barrie Rail ROW. For purposes of the TPAP, it was assumed that the feeder route along the BCRY ROW will be underground as this represents the worst case scenario from a potential impact perspective. During detailed design, either the aerial or underground design option will be confirmed.</p> <p>The BCRY is not owned by Metrolinx, therefore an easement will be required from the City of Barrie for the installation of the feeder route along the rail ROW. The location and placement of the 2 x 25 kV feeder route will be designed to avoid operational impacts to existing railway operators to the extent possible and Metrolinx is committed to working with the City of Barrie/Barrie Collingwood Railway during detailed design to determine the preferred installation method. Please refer to the update package sent by email on November 7, 2016 for additional information.</p> <p>If an aerial feeder option is chosen, the vegetation clearance zone will be a maximum 7 metre (m) zone from the centre line of the outermost electrified track. This 7 m zone includes:</p> <ul style="list-style-type: none">• 2.9 m clearance from the track to the feeder route pole to ensure clearance of the train to the feeder route pole.	See response to comments #18 and #27.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">2.5 m vegetation clearance from the feeder route pole to the limits of the trees.Up to 1.6 m to account for tree grow back (regrowth zone). <p>Information including the typical vegetation clearance drawing as well as mapping depicting the vegetation clearance zone was provided as part of the update package sent by email on November 7, 2016.</p> <p>City Response: The City requests Metrolinx consider contacting all directly affected residents to advise of the vegetation clearing as part of the consultation process. Please refer to the City’s Tree By-Law 2014-115.</p>	
31.	Infrastructure Siting – Feeder Route	<p>Original City Comment: Please provide further information regarding the conductor support system details.</p> <p>Metrolinx Response: As outlined in our June 29 2016 meeting, there are three options for installing the feeder route. The final design of the feeder line will be determined during the next phase of detailed design. The line may consist of bare aerial wires, underground conduit, insulated cable or a combination of two or more of these. Beyond the information previously provided, additional details are not currently available, at this conceptual design phase.</p> <p>City Response: The City requested that Metrolinx consider communicating the most probable implementation option to directly affected residents, which has been identified as the overhead option. The City has requested that the transmission feeder be installed underground from Innisfil Street to Allandale Street to accommodate the Urban Growth Centre.</p>	See response to comment #15 and #18
32.	Infrastructure Siting – Feeder Route	<p>Original City Comment: The City of Barrie is completing the detailed design of the reconstruction of Essa Road (including the BCR crossing) and construction is anticipated later this year. The City could incorporate any required infrastructure with this reconstruction project to minimize disruption to the public and seek to mitigate the potential of throw-away costs. The City requests a meeting with Metrolinx to discuss measure that would facilitate the accommodation of electrification.</p> <p>Metrolinx Response: No electrification infrastructure would be required to be incorporated at the Essa Road crossing. This is an existing at-grade crossing located outside the limits of the electrification project. It appears that the reconstruction of Essa Road will be completed well in advance of the electrification of the Barrie rail corridor.</p> <p>City Response: The City comment pertains to the 25kv feeder. Follow-up comment provided in March 31st letter.</p>	See response to comment #15. No additional response required.
33.	Infrastructure Siting – Feeder Route	<p>Original City Comment: The City has completed a safety assessment and preliminary design project at the Anne Street and Innisfil Street BCR crossings. Detailed Design has been initiated and construction is anticipated in 2017. The City could incorporate any required infrastructure with this construction project to minimize disruption to the public and seek to mitigate the potential of throw-away costs. The City requests a meeting with Metrolinx to discuss measures that would facilitate the accommodation of electrification.</p> <p>Metrolinx Response: No electrification infrastructure would be required to be incorporated at these locations. These are at-grade-separation beyond the limits of electrification (beyond Essa Road, on the BCRY).</p>	See response to comment #15. No additional response required.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx					
		City Response: The City comment pertains to the 25kv feeder. Follow-up comment provided in March 31 st letter.						
34.	Utilities Impact & Mitigation	<p>Original City Comment: Have any short or long term impacts on existing underground or overhead infrastructure?</p> <p>Metrolinx Response: As part of the GO Rail Network TPAP, a Utilities Impact Assessment is being carried out to inventory utilities and carry out preliminary identification of potential utility conflicts due to electrification. Potential conflicts were assessed based on existing or planned utilities and categorized as follows: spatial conflicts, electrical clearance conflicts, and electrical zone of influence conflicts. Ongoing consultation with utility owners is being undertaken to discuss potential relocation and/or mitigation options, as required. Notwithstanding this, a more detailed review of utility conflicts will be undertaken during detailed design.</p> <ul style="list-style-type: none">• Spatial and electrical clearance conflicts may be mitigated through: removal, relocation, reconfiguration or burial of overhead utilities.• For utilities attached to bridges, further study of the potential conflict during the design phase will be required to determine the extent of actual conflict.• Electrical zone of influence effects may be mitigated through grounding and bonding or isolation. <p>With respect to City of Barrie owned utilities in this particular area (i.e., vicinity of Allandale TPS and feeder route), the following potential conflicts have been identified to date through consultation/discussions with the City (John Struik):</p> <ul style="list-style-type: none">• 1 culvert• 3 sanitary sewers• 7 storm sewers• 11 water mains <p>Pipelines may need to be relocated and if they are metallic (or encased in a metallic material) may need to be bonded to the Electrification return system. The resolution of conflicts and finalization of specific mitigation measures will be finalized during detailed design.</p> <p>City Response: The City requests a detailed list of conflicts at each crossing and proposed mitigation measures.</p>	Potential utility conflicts have been detailed in the Utilities Impact Assessment Report contained in Appendix I.					
35.	Property Impacts	<p>Original City Comment: Is additional property required to accommodate the proposed electrification system? If yes, please forward a plan showing where and how much.</p> <p>Metrolinx Response: Metrolinx is purchasing several properties along the Barrie rail corridor as part of the Barrie Corridor track expansion project.</p> <p>Metrolinx will require property in some cases for the purposes of siting traction power facilities (i.e., sites that are not currently owned by Metrolinx). Metrolinx is currently in discussions with potentially affected landowners as part of the TPAP. Details regarding TPF locations were provided in the package provided to City of Barrie on November 7 2016.</p> <p>The Overhead Contact System (OCS) infrastructure will be constructed within a zone of 5 metres from the centreline of the outermost track along all corridors to be electrified. Based on the</p>	<p>As outlined in EPR Volume 1, Section 3.7.1, “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.”</p> <p>With respect to property requirements for electrification traction power facilities associated with the Barrie corridor, this has been detailed in Table 3-2 of Draft EPR Volume 1, as follows. Mapping of these particular sites is also included in the Drat EPR provided to the City as Figures 3-4 to 3-9 and Figures 3-38 to 3-53.</p> <ul style="list-style-type: none">• Allandale Tap• Allandale TPS• Gilford PS• Newmarket SWS• Maple PS <table><tr><td>Allandale Tap</td><td>Hydro One</td><td>Yes – acquisition or easement</td></tr></table>			Allandale Tap	Hydro One	Yes – acquisition or easement
Allandale Tap	Hydro One	Yes – acquisition or easement						

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx		
		conceptual design prepared as part of the TPAP, the OCS infrastructure (support poles, wires, etc.) can be accommodated within the Metrolinx owned ROW. City Response: The City requests mapping of property requirements beyond the existing ROW (excluding the Allandale TPS).	Allandale TPS	Privately Owned	Yes - acquisition
			Access Road	Privately Owned	Yes - acquisition
			Underground Duct Banks	Privately Owned	None
			Gantries	Privately Owned	Yes – acquisition
			Gilford PS	Metrolinx	No – on Metrolinx property
			Access Road	Metrolinx	No – on Metrolinx property
			Underground Duct Banks	Metrolinx	No – on Metrolinx property
			Gantries	Metrolinx	No – on Metrolinx property
			Newmarket SWS	Privately Owned	Yes – acquisition from Newmarket Hydro
			Access Road	Privately Owned	Yes – acquisition from Newmarket Hydro
			Underground Duct Banks	HONI / Privately Owned	Yes – easement on HONI property and private property
			Gantries	Metrolinx	No – on Metrolinx property
			Maple PS	Privately Owned	Yes - acquisition
			Access Road	Privately Owned	Yes - acquisition
			Underground Duct Banks	Privately Owned	Yes - acquisition
			Gantries	Privately Owned	Yes – acquisition
36.	Infrastructure Siting - TPS	Original City Comment: Proposed site of the TPS conflicts with proposed stormwater management facility endorsed by Council through the Annexation Stormwater Management Master Plan. Metrolinx Response: Our understanding according to the City of Barrie Comprehensive Stormwater Management Master Plan INTERIM Draft Report (2015), Retrofit Opportunity 38 is described as being a new pond with low priority, a high cost per kg of phosphorus removed and a very low phosphorous removal opportunity. The final assessment ranked this location 26 out of a possible 28 SWM locations within the Lake Simcoe Region Conservation Authority watersheds. Additional work including, natural environmental characteristics were required at the time of the assessment in order to proceed with implementation and confirm the location. It is also our understanding that the proposed SWM location is currently owned by Hydro One (who is a Co-Proponent with Metrolinx on the Electrification TPAP); we assume therefore that the City has consulted with Hydro One with respect to locating a potential SWM pond in this area, however we were not able to find any documentation related to this consultation effort in the 2015 report provided. It is recommended that further discussions occur between Metrolinx and the City of Barrie to better understand the timeline for the City’s future study/plans/implementation in order to establish a solution if required for any possible conflicts. At this time Metrolinx requests a digital GIS shapefile or CAD drawing which delineates the full extent of the planned SWM area, in order to assess the full extent of any possible conflicts with the proposed tap/TPS (note - only the point data was available in the 2015 study named above).	The purpose of the Feb 22, 2017 meeting with City of Barrie was to discuss the Barrie Collingwood Railway. No impacts are anticipated to the City’s SWM master plan. The updated Allandale Tap/TPS arrangement will be included in the final EPR. For clarification, there was no Feb 17 th meeting for the Electrification project. The Feb 22, 2017 minutes do not mention a new arrangement of the transmission line that will negate the need for the property where the City’s SWM facility is located.		

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>In addition, recent follow up was undertaken with the Lake Simcoe Region Conservation Authority (LSRCA). A site investigation by the LSRCA during Summer 2016 confirmed the potential creek/ditch located in the vicinity of the proposed Allandale Tap/TPS, is a channelized ditch and not a watercourse. The channelized ditch appears to originate between homes on Phillip Street and terminates at the Hydro One station north of Tiffin Street. At the time of the site visit, the channelized ditch had no water present. There is evidence that the feature conveys water on occasion with enough to support some aquatic vegetation, however there is no evidence that the ditch connects to another watercourse or waterbody.</p> <p>With this in mind, a conceptual layout for the Allandale Tap/TPS has been prepared which involves reconfiguration of the site so that the ditch is no longer impacted. The TPS equipment is located on the property adjacent to the ditch. The ditch will remain as it is and access to the site will be from Tiffin Street. The 230KV taps to the HONI towers will be made on Hydro One land (exact location TBD during detailed design) and the wires will come from the tap to the TPF aerially over the ditch. The gantries that supply power to the track will be located to the west of the spot where the ditch bends south and crosses the tracks.</p> <p>City Response: Metrolinx noted at the February 22, 2017 meeting that a new arrangement of the transmission lines from Hydro One to the Allandale TPS may negate the need for the property where the proposed SWM facility is located.</p>	

Table 1-26: City of Brampton Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF BRAMPTON			
1.	Bridge Modifications	Current planning calls for the bridge on Bramalea Road over the rail tracks to be widened to six lanes. An Environmental Assessment for the widening of Bramalea Road between Steeles Avenues East and the southern City limit has commenced but is not yet complete. Pending completion of the EA, Brampton requests that the planning for the electrification of the Kitchener GO line allow for the widening of the Bramalea Road Bridge (i.e. that no electrification-related infrastructure be located within the footprint required for a widened bridge).	Noted. The future widening of the Bramalea Road Bridge will be considered and incorporated into the design of electrification infrastructure as part of the detailed design phase. Please keep Metrolinx apprised of the bridge widening EA. Metrolinx will coordinate with City of Brampton as required during detailed design of the Electrification Project, including the proposed modifications to the bridge required for electrification (i.e. flash plate, wire attachments and bridge protection barriers).
2.	Bridge Modifications	If there will be a need to anchor any electrification-related infrastructure (e.g. attachment of a pole or line, installation of special wiring insulation) to the Bramalea Road Bridge, an agreement will need to be reached that outlines Metrolinx’s responsibility for any costs associated with future works. This will need to include costs incurred subsequent to rehabilitation or widening of the bridge.	Acknowledged. Further review and discussion regarding existing bridge maintenance agreements, including Metrolinx’s responsibility for any costs associated with future works, will be needed with the City during detailed design.
3.	Bridge Modifications	Tables 3-5 in Draft EPR Volume 1 and 3-9 in Appendix E2 provide summaries of bridge modifications on the Kitchener Rail Corridor. There is a discrepancy in the two tables that requires correction and/or clarification. Specifically, the entries in the “Wires to be Attached to Bridge” cells for the Bramalea Road Bridge differ (Yes” in Table 3-5 and “No” in Table 3-9.	Table 3-9 in Appendix E2 will be corrected to match Table 3-5 in Volume 1.
4.	General Comment	Brampton looks forward to the opportunity to provide comments during the detailed design phase of the project, especially as regards the Bramalea Road Bridge.	Noted. Metrolinx will coordinate with City of Brampton as required during detailed design of the Electrification Project.
5.	Noise Assessment	Tables 1 in Appendix G3 states that the receptor distance from the nearest track for Receptor R46 is 1,180 metres. Measurement from aerial photos suggests that the distance is roughly 380 metres. Clarification is required as to whether the noise impacts listed in Tables 3a, 3b and 4 of Appendix G3 are based on the 1,180 or 380 metre distance. If the impacts are based on the 1,180 metre distance, the projection model and tables need to be revised to reflect the actual distance.	Receptor 46 was included in the model to assess impacts from the traction power facility, as it is the closest receptor to the proposed traction power facility. It is listed in the table as being 1,180 metres from the limit of the Kitchener Corridor assessment, just west of the Bramalea Station. The table will be updated to list the distance from the traction power facility for clarity.
6.	Noise Assessment	Clarification is requested as to why the MOEE/Go protocol was referenced instead of the current NPC-300 protocol. Brampton notes that the MOEE/Go protocol is still in draft form and that some consultants are hesitant to reference it because of this.	The MOEE/GO TRANSIT Protocol for Noise and Vibration Assessment, dated January, 1995 is the standard for all Metrolinx noise and vibration assessments for liner railways and is a requirement by the Ministry of the Environment and Climate Change (MOECC). The NPC-300 protocol is applicable for stationary sources. The Electrification Project Team has actively engaged the MOECC as part of this undertaking and proposed assessment methodology. Copies of the Draft EPR, including the Noise and Vibration Impact Assessment Reports have been provided for their review/comment.
7.	Project Construction	Brampton request the opportunity to provide comments on construction details and timing as that stage of the electrification project approaches.	Commitments for continued communication and additional opportunities for comments on the project’s design and construction schedule during detail design will be reflected in EPR Volume 5.
8.	Cultural Heritage	Tables 5-9 in Draft EPR Volume 3 and 3-10 in Appendix C2 provide summaries of footprint impacts and mitigation measures for the Bramalea Paralleling Station. The “Potential Effects and Avoidance/Mitigation/Compensation Measures” provided in the two tables differ. Clarification is requested as to why these tables are different.	Noted. Refer to Table 5-9 in Draft EPR Volume 3 as it reflects the Metrolinx Heritage Committee decision on the Cultural Heritage Evaluation Report prepared for the proposed Bramalea PS site. Updates to Appendix C2 will be made for the Final EPR.
9.	Cultural Heritage	Table 2-1 in Appendix C2 lists the “Potential Impact to the Culture Heritage Resource” at the site of the Bramalea Paralleling Station as “Alteration”. Clarification is requested as to how the construction of the Paralleling Station will impact the Listed Heritage Property.	Following preparation of the Draft EPR in January 2017, it was determined that no impacts are anticipated to the Listed Heritage Property (City of Brampton) identified in Table 2-1 as a result of the construction of the proposed Bramalea PS site. This will be updated and reflected in the Final EPR and Appendix C2.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
10.	Cultural Heritage	Please provide Brampton with a copy of the draft CHER for the Bramalea Paralleling Station site.	A copy of the CHER for the proposed Bramalea Paralleling Station is attached. It should be noted this CHER was not yet finalized as part of preparing the Draft EPR in January 2017 and therefore Appendix C as well as the Final EPR will be updated to reflect this.
11.	Land Use/Zoning	<p>Brampton acknowledges that, as a Crown Corporation, Metrolinx is not subject to municipal land use controls. That being said, Brampton notes that Section 6.10 of the City of Brampton Zoning By-law regulates Utility Uses. This section permits the use of any land or the erection of any building, structure, plant or equipment by a public authority for a utility installation other than power generation. The size, height, coverage and yard requirements of the site specific zone shall apply.</p> <p>The site on which the Bramalea Paralleling Station is to be located is zoned M2-Section 168 in the City of Brampton Zoning By-law. Based on the conceptual plan shown on Figure 3-42 of Draft EPR Volume 1, the proposed location of the paralleling station at the north end of the parcel adjacent to the rail corridor will comply with the requirements of the M2-168 Zone.</p>	<p>Thank you for confirming the proposed Bramalea Paralleling Station will comply with the requirements of the M2-168 Zone.</p> <p>The Land Use and Socio-Economic Impact Assessment Report (Appendix E2) has been updated to note compliance with 6.10 of the Zoning By-law.</p>

Table 1-27: City of Burlington Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF BURLINGTON			
1.	Bridge Modifications	Please indicate in the report that the City of Burlington has identified Cumberland for a location for an underpass. Currently it is identified as a pedestrian only underpass but may be expanded for vehicles as well through the Transportation Masterplan that is underway. This should not have an impact on the proposed location for the Burlington TPS site.	Acknowledged. City of Burlington had noted the potential extension of Cumberland Avenue at the December 15 2015 meeting with Metrolinx. It is requested that the City of Burlington provide Metrolinx with drawings/plans for the proposed vehicle underpass if available. The potential for a future vehicle underpass at Cumberland Avenue will be considered and incorporated into the design of electrification infrastructure as part of the detailed design phase. Please keep Metrolinx apprised of the Transportation Masterplan process and ensure Metrolinx is consulted as part of the design process for the new/proposed bridge to ensure that all relevant corridor electrification requirements are satisfied.
2.	Project Scope	The draft report has identified the Lakeshore West Corridor at 5 rail lines near Toronto transitioning down to 4 rail lines through Burlington. Please confirm as this does not align with the current TPAP underway for the Burloak Grade Separation.	With respect to the assumptions outlined in EPR Volume 1, Section 3.3.2, it should be noted that this represents Metrolinx’s ultimate Regional Express Rail (RER) build-out scenario; these assumptions were made as part of the TPAP in order to establish the OCS Impact Zones/Vegetation Clearance Zones along the corridors for purposes of carrying out impact assessment studies. Neither project is seeking EA approval to construct an additional 4 th track through Burlington at this time.
3.	Bridge Modifications	The City of Burlington does not have any immediate plans to replace the Drury Lane Pedestrian Bridge in the near future. We continue to monitor the bridge and have budgeted monies for repairs/rehabilitation when needed.	As noted in EPR Volume 1, Section 3.9.5.3 a structural analysis was completed for the Drury Lane Pedestrian Bridge, which indicates under existing conditions the bridge requires major modifications to accommodate electrification. Although the extent of the modifications cannot be confirmed until further detailed design work is undertaken, the current recommended solution for this bridge is to replace it in order to be code compliant. A protective barrier will be installed in order to meet the requirements of the Electrification project. Further review and discussion regarding plans to modify/replace this bridge, will be undertaken with the City during detail design.
4.	Tree/Vegetation Removal	There is reference to tree removal at Appleby and a Metrolinx Compensation Protocol. Please forward the protocol to Rosa Bustamante (copied here) as Rosa is leading our Mobility Hubs studies which includes natural heritage analysis.	Acknowledged. The Metrolinx Tree/Vegetation Compensation Protocol will be provided to the City through Rosa, once available.
5.	Project Scope	The report would benefit from referencing the study that is being conducted for a fourth GO station in Burlington at Walker’s Line. This would be on the RER line.	The Electrification TPAP has considered existing GO stations as well as GO stations with EA approval in place at the time of preparing the TPAP. Separate EAs/TPAP’s will be necessary for the planned new GO Stations and will be undertaken in the future as outlined in Section 3.13 of EPR Volume 1. It is also noted that Figure 1-1 in EPR Volume 1 will be updated to reflect the additional/approved future GO Stations. In June 2016, 12 new stations were recommended and approved by the Metrolinx Board. Details for the planned new GO stations can be found in the Metrolinx board report here: http://www.metrolinx.com/en/docs/pdf/board_agenda/20161208/20161208_BoardMtg_New_Stations_Report_EN.pdf The Walker’s Line-Cumberland GO Station is not being included in the GO RER 10 year program at this time. However, this does not mean that the stations will not be considered for inclusion in the GO rail network in the future. Metrolinx will continue to work with municipalities to improve the strategic, economic, financial, and operations cases for these locations and bring them forward for consideration.
6.	Project Scope	We reiterate our support for electrification to the Aldershot GO station.	Acknowledged. While the current GO Rail Network Electrification TPAP Project is not assessing electrification west of Aldershot GO Station, it does not preclude the provision of electrified service in the future. The scope of the GO Rail Network Electrification Project is for Metrolinx owned corridors/track. The portion of track between Burlington GO Station and Aldershot GO Station is owned by Canadian National Railway (CN Rail). Further discussions with CN Rail are required before electrified service beyond Burlington can be implemented.

Table 1-28: City of Markham Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF MARKHAM			
General			
1.	Design/Scope of Work	<p>Metrolinx Future Grade separation Feasibility Study</p> <p>The Metrolinx feasibility study for future grade separations should be acknowledged and addressed within the appropriate sections of the Report(s).</p>	<p>A Board Announcement regarding grade separations was made in February 2017. For the initial phase of this work (Level Crossings Plan), a draft plan for crossing improvements is expected in late 2017.</p> <p>With 185 level crossings on the GO Transit network, a comprehensive approach is required to manage projected increases in road and rail traffic that will ensure continued safe operations.</p> <p>Within the context of the RER business case, Metrolinx will continue to work towards advancing a select number of grade separations as part of construction, with a focus on those projects that support the RER program. More generally, subject to funding, Metrolinx will plan for future projects by anticipating future grade separations with a program of planning and design.</p> <p>For both level crossings and grade separations, Metrolinx will work in partnership with municipal and private counterparts to seek input and manage impacts.</p> <p>EPR Volume 1 will be updated to note these announced grade separations, however any assessment or recommendations are outside the scope of the Electrification TPAP.</p> <p>More details on the RER Level Crossing Strategy is available at: http://www.metrolinx.com/en/docs/pdf/board_agenda/20170217/20170217_BoardMtg_RER_Level_Crossings_EN.pdf</p>
2.	Land Use	<p>Please note that the Milliken Secondary Plan and associated studies are currently under way. Please include and reference the Milliken Secondary Plan in the EPR. The City will be pleased to meet with the electrification project team to discuss current status and provide available information to assist with the EPR. For your reference, attached please find the secondary plan boundary (Attachment A)</p> <p>https://www2.markham.ca/markham/ccbs/DocExtract2.asp?Document=cl161213-006c-0005.htm&vpath=/markham/ccbs/indexfile/index/council/cl161213-006c-0005.htm</p>	<p>Acknowledged. This secondary plan is referenced in Section 4.5.3.1.2 of the Land Use and Socio-Economic Baseline Report (Appendix E1).</p> <p>Metrolinx would be pleased to meet with municipal staff and will be arranging a meeting to further discuss.</p>
3.	Natural Environment	<p>Please see Attachment B for comments from our Natural Heritage group</p> <p>Provided below</p>	<p>Responses to comments provided in the attachment have been itemized in this table. Please refer to item numbers 19-27.</p>
4.	Cultural Heritage	<p>Please see Attachment C for comments from our Planning (Heritage) group</p> <p>Provided below</p>	<p>Responses to comments provided in the attachment have been itemized in this table. Please refer to item numbers 28-45.</p>
5.	Design	<p>Email dated August 18, 2016 provided as attachment to comments.</p> <p>Hi Dan,</p> <p>Thank you for providing us with an updated station location, addressing our comments of March 30th, and the opportunity to review the latest proposal.</p> <p>We noted that the access to the site was from Miller Avenue, just east of the railway. Miller Avenue EA illustrates the crossing to be an overpass and the location of the driveway may not be achievable due to the grade difference.</p>	<p>With respect to access for the Unionville PS, the proposed access route is as shown on Figure 3-48 in EPR Vol. 1 and was further refined from our previous correspondence dated July 28, 2016. Access to the Unionville PS site will utilize the existing driveway to the PowerStream Substation property located to the east.</p> <p>The Miller Avenue extension and potential grade separation over the rail corridor does not preclude the Unionville PS being located on the proposed site however, final details regarding the access route will need to be coordinated with the City and Infrastructure Ontario as both designs progress.</p> <p>With respect to the proposed site for the Unionville PS, as outlined in our July 28 2016 response to the City’s March 2016 comments:</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>The station location was also discussed internally, and further to our initial comments in March, the City would prefer for the station to be located on the south side of Miller Avenue. The comment above on the access from Miller Avenue would also apply to the south side, as it may have to be extended further to the east.</p> <p>Please feel free to contact me if you wish to discuss our comments.</p> <p>Have a great weekend!</p> <p>Regards,</p> <p>Marija Ilic, P.Eng. Senior Engineer Development Services, Engineering Department City of Markham</p>	<p><i>A review of the Miller Avenue EA as well as the sketch provided as part of your March 30th correspondence was undertaken which identifies the proposed Miller Avenue extension, preferred 407 Transitway alignment (north of 407), as well as the City of Markham’s suggested alternative alignment (south of 407). These alignments, as well as the proposed Unionville Paralleling Station (PS) are shown on the attached map. It is our understanding that the preferred 407 Transitway alignment is north of the 407 as established through the 407 Transitway from east of Highway 400 to Kennedy Road Transit Project Assessment Process (TPAP), which received EA approval in February 2011. Based on the available information, the proposed Unionville PS is not anticipated to preclude the implementation of the proposed Miller Avenue extension and/or the future 407 Transitway alignment, including the preferred and alternative alignments provided.</i></p> <p>The Project Team is aware that discussions for the planned Markham Centre Mobility Hub are ongoing between the City and Metrolinx’s Hubs & Station Planning group. No conflicts have been identified between the location of the Unionville PS and the future Mobility Hub.</p> <p>In addition, Metrolinx is actively consulting with the Ministry of Transportation (MTO) as part of this project to ensure no conflicts with the proposed design with any potential future expansion plans. At present, MTO has not advised of any potential conflicts with respect to the proposed Unionville PS site.</p>
Volume 1			
6.	Design/Scope of Work	<p>Stouffville Corridor</p> <p>City of Markham Council endorsed a new station at Denison Street, east side of the tracks, instead of 14th Avenue potential new station identified by Metrolinx. Please include a discussion on potential new stations (including Major Mackenzie). Council resolution and report can be viewed under the following link:</p> <p>https://www2.markham.ca/markham/ccbs/DocExtract2.asp?Document=cl160503-006a-0003.htm&vpath=/markham/ccbs/indexfile/index/council/cl160503-006a-0003.htm</p>	<p>In June 2016, 12 new stations were recommended and approved by the Metrolinx Board. Details for the planned new GO stations can be found in the Metrolinx board report here: http://www.metrolinx.com/en/docs/pdf/board_agenda/20161208/20161208_BoardMtg_New_Stations_Report_EN.pdf</p> <p>As required, the environmental impacts of the new stations will be addressed through separate EAs to be undertaken for designing/constructing the new stations, and are not included in the scope of the current Electrification TPAP.</p> <p>Neither of the two sites (14th/Denison or Major Mackenzie) located within the City of Markham moved forward to Initial Business Case evaluation.</p> <p>A station at 14th Avenue did not perform well under initial evaluation of potential station sites. Among other concerns, a station at 14th Avenue would not be technically feasible due to the existing grade separation.</p> <p>Shifting the location to Denison Avenue did not provide compelling potential to improve the analysis completed for 14th Avenue. A station south of Denison Avenue would not meet minimum spacing from Milliken GO Station. Locating a platform north of Denison was also deemed unfeasible, requiring major reconstruction of the 14th Avenue grade separation.</p> <p>A station at Major Mackenzie Avenue does not meet minimum spacing from Mount Joy GO Station and was not carried forward.</p> <p>EPR Volume 1 will be updated to note the announced new stations, however any assessment or recommendations are outside the scope of the Electrification TPAP.</p>
7.	Design	<p>Location of Proposed Unionville PS</p> <p>As you are aware, Metrolinx and the City of Markham are currently undertaking the Markham Centre Mobility Hub Study. This study will also look at a comprehensive transportation network, including alternative 407 Transitway alignments. The current alignment illustrated in the 407 Transitway EA report is on the north side of the 407, however the alignment will be reviewed further during the Mobility Hub Study with a potential shift to the south side of the 407 ETR. Please note that communication from Markham regarding the paralleling station location was provided via email on</p>	<p>The Project Team is aware that discussions for the planned Mobility Hub are ongoing between the City and Metrolinx’s Hubs & Station Planning group. As mentioned in the response to Comment #5, no conflicts have been identified between the location of the Unionville PS and the future Mobility Hub.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		August 19, 2016 (emails attached), requesting that the PS be located on the south side of future Miller Avenue Extension to allow for the above. We note that the draft EPR illustrates the original proposed location. We request that the PS location be revisited.	
8.	Design, Land Use	Please note that the City would like to provide an active transportation pathway along the rail corridor linking the north side of Markham Centre to the south, under the 407 ETR. How does the electrification of the system affect this walkway and will minimum clearances be met?	<p>From a land use perspective, the electrification of the Stouffville rail corridor in this area is not expected to preclude a potential future transportation pathway in this area. The OCS structures are proposed to be constructed within the existing rail corridor right-of-way.</p> <p>Any new overhead bridges/pedestrian crossings will be required to provide a preferred Minimum Vertical Clearance of 7.584 m to maintain clearance requirements set by Transport Canada, clearance requirements of the OCS, and to avoid affixing OCS attachments to the overhead structure.</p> <p>In the case that the new overhead structures are concrete, the following requirements apply: if the vertical clearance between OCS conductors and concrete overpasses is less than 1m (3'3"), flash plates will be required to be installed above the OCS attached to the underside of the bridge and bonded to the static wire for grounding requirements. For steel overpasses, steel girders are required to be interconnected and bonded to the static wire for grounding requirements.</p> <p>Bridge protection barriers will also be required on all overhead bridges to protect pedestrians and infrastructure users within the public right-of-way on bridges from direct contact with adjacent live parts of the OCS for voltages up to 25 kV to ground. These barriers also act to protect against damage to the OCS passing under bridges by providing an obstacle to debris that may be thrown onto the railway from overhead. New overhead bridges and pedestrian crossings will require adequate load carrying capacity/structural adequacy to accommodate the requirements for these barriers. All metallic elements of the protection barriers will also need to be grounded and bonded.</p> <p>It is assumed that any proposed/future plans to construct new bridges or pedestrian crossings over the rail corridor will be subject to an Environmental Assessment (EA) process by the City. With that in mind, please ensure that Metrolinx is consulted as part of the planning and design process to ensure that any electrification-related requirements are considered.</p>
9.	Design/Scope of Work	<p>Table 3-7 Summary of Bridge Modifications</p> <p>Future bridges are not recognized in this section- e.g., Steeles Ave. grade separation and pedestrian overpass - Steeles EA. Potential grade separations at Denison St. and Kennedy Rd. Please include these grade separations in the report.</p>	<p>As outlined in Vol 1., Section 3.2: <i>The base case scenario for the TPAP is the year 2025 (as per the RER business case), with any additional /planned RER expansion/infrastructure works (new tracks, grade separations, etc.) in place. Electrification infrastructure is essentially being 'added to' the other expansion works.</i></p> <p>Regarding grade separations that may take the road under the rail, there are no specific electrification design requirements for grade separations and therefore these are not included in the bridge modifications tables of Vol 1.</p> <p>Regarding grade separations that will take road over rail, as noted in Section 3.9.4, new (i.e. future bridges to be constructed) overhead bridges will be required to provide a preferred Minimum Vertical Clearance (MVC) of 7.584m to maintain clearance requirements set by Transport Canada and clearance requirements of the Overhead Catenary System (OCS) to avoid OCS attachments to the overhead structure.</p> <p>Please refer to the response to Comment #1 for details on the grade separation program.</p>
10.	Design, Land Use	<p>Pedestrian bridge</p> <p>Please note that as part of the Milliken Secondary plan, we are investigating the option of having two pedestrian/cyclist connections from the east to the west side of the tracks (i.e. Milliken community to the future Remington Centre), between Kennedy Road south crossing and Steeles Avenue.</p>	<p>Noted. From a land use perspective, the electrification Stouffville rail corridor in this area is not expected to preclude a potential future pedestrian/cyclist connection in this area. The OCS structures are proposed to be constructed within the existing rail corridor right-of-way.</p> <p>Any new overhead bridges/pedestrian crossings will be required to provide a preferred Minimum Vertical Clearance of 7.584 m to maintain clearance requirements set by Transport Canada, clearance requirements of the OCS, and to avoid affixing OCS attachments to the overhead structure.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Please ensure that Metrolinx is consulted as part of the planning and design process to ensure that any electrification-related requirements are considered.</p> <p>Please see response to Comment #8</p>
10.1	Design, Land Use	<p>As per email received from Marija Ilic (April 28, 2017)</p> <p>Two conceptual locations have been identified in the Milliken Secondary Plan for the east/west crossing of the tracks, illustrated on the attached air photo. These conceptual locations are designed to accommodate pedestrian and cycling crossing of the rail line. Please note that these are conceptual and the final locations will be determined at the site specific application stage along with the necessary infrastructure required. Kindly advise if there are any initial constraints to potential crossings at this time due to electrification. We will advise Metrolinx at subsequent stages of the Secondary Plan process and at site specific applications.</p>	<p>With respect to electrification requirements for new overhead bridges/pedestrian crossings that will cross over the Metrolinx rail ROW, the following design considerations/constraints apply as outlined in Volume 1 of the Draft Environmental Project Report (EPR):</p> <p>Please ensure that Metrolinx is consulted as part of the planning and design process to ensure that any electrification-related requirements are considered.</p> <p>Please see response to Comment #8</p>
Volume 2			
11.	Natural Environment	<p>6.1.6.1 Terrestrial</p> <p>Reference to the wetland, woodlands, ELC and wildlife identified in the vicinity of Kennedy Road and the Rail corridor within the Milliken Centre Secondary Plan area should be included (see Attachment F Natural Heritage Report - North South Environmental 2016)</p>	<p>The Natural Heritage Report (North South Environmental, 2016) has been reviewed and the Natural Environment Impact Assessment Report / EPR will be updated to include reference to the information contained within this report.</p>
12.	Land Use	<p>6.5.6.2 Planned Land use</p> <p>The land uses should include commercial - e.g., Remington Centre and Pacific Mall. The following refined rewording of the 3rd sentence is recommended. "Uses include residential of varying densities, commercial mixed use buildings, public and park uses, including an elementary school site." Please ensure any impacts to these features are addressed in Volume 3.</p>	<p>The recommended wording has been reflected in the Land Use and Socio-Economic Baseline Report (Appendix E1) and EPR Vol 2. There are no anticipated effects to these features due to the electrification project.</p>
13.	Air Quality	<p>7.7 Air Quality</p> <p>Please address if the electrification will result in more or less dust due to potentially increased speed and/or potentially more or less particulate matter related to diesel fuel and braking. Increased frequency should also be factored into the evaluation along with mitigation measures.</p>	<p>Diesel and electric trains produce small quantities of brake, wheel and track wear products. This is mainly iron and mainly larger particles (around 10 micrometres in diameter). Electric trains will be equipped with effective dynamic braking, which will reduce the extent of friction braking and hence abrasion products.</p> <p>The dispersion of pollutants depend on many variables, in particular, the nature of the pollutant. Rail abrasion products, which consist mainly of iron, travel only a short distance from their point of emission.</p> <p>Compared to a scenario in which future Regional Express Rail service (increased frequency) is achieved using diesel locomotives, electrification will be highly effective in reducing or even eliminating the more consequential particulate matter emissions from GO rail service.</p> <p>Electric trains are not expected to travel significantly faster than diesel trains, since rail speeds are largely dictated by safety standards and Class of track.</p>
14.	Noise	<p>7.87</p> <p>City would like the opportunity to review all proposed barriers (including berms, fence heights, type of fence proposed, coordination with Milliken SP, etc) that are identified both technically feasible and not feasible. We would also appreciate consideration to lower the noise levels where the existing levels exceed the standard.</p>	<p>The noise mitigation locations have been identified in the Noise and Vibration Reports contained in Appendix G as well as on the maps provided in Appendix S. 'Non-technically' refers to the fact that a 5 metre high noise wall would not reduce noise by at least 5 dB per the Protocol. The Final EPR will only show the recommended technically feasible noise wall locations, including height and lengths, as only technically feasible noise walls will be considered for implementation during detailed design. The non-technically feasible noise walls will not be included in the Final EPR. In accordance with the 1995 MOEE/GO Transit Noise Protocol Metrolinx will:</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Consider mitigation if the project is expected to cause a 5 dB increase or greater in the average noise (referred to as “Leq”) relative to the existing noise level or the MOECC objectives of 55 dBA for daytime and 50 dBA for night-timeNoise mitigation will be in the form of noise barriers with a height of 5 m. This will include further consideration of the administrative, operational, and economic feasibility as per the Protocol.With respect to fencing, the installation and maintenance of fencing systems is a key component of the larger safety strategy aimed at trespass and related issue prevention (vandalism, graffiti) on GO Transit-managed corridors. For all new developments adjacent to GO Transit-managed railway corridors, an appropriate fencing type along the boundary line is required to be installed by the property developer as a condition of subdivision/site plan approval.City of Markham should contact Metrolinx to confirm the requirements of development adjacent to rail corridors (Adam Snow, Third Party Projects Officer, Adam.Snow@metrolinx.com).As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/options for enhancing the aesthetics of bridge barriers where feasible/required. Options for design treatments/options for enhancing the aesthetics of bridge barriers, will be discussed in consultation with relevant municipalities during detailed design.
15.	Visual	<p>7.1 Potential Effect and Mitigation Measures (Visual)</p> <p>The proposed new community at Milliken Centre should be included.(See comments under Volume 2 Section 6.5.6.2) The crash berm required adjacent to mixed use and residential development along with the landscaping on the berm may create an effective visual barrier and should be considered for inclusion in this section. The planting of the crash berms should take into consideration suitable plant species that reduce dust as well as the ecological and social benefits provided by such plantings.</p>	<p>The proposed new community at Milliken Centre will be noted as appropriate in the Visual Impact Assessment Report/EPR Volume 3 per the information provided by the City of Markham as part of your comments on the Draft EPR.</p> <p>Requirements for berms or crash walls are described in Metrolinx’s <i>Adjacent Development Guidelines</i>, Section 6.2. City of Markham should contact Metrolinx to confirm the requirements of development adjacent to rail corridors (Adam Snow, Third Party Projects Officer, Adam.Snow@metrolinx.com).</p> <p>Any proposed landscaping will need to meet requirements for the Vegetation Removal Zone as outlined in Vol. 1 Section 3.6.4.</p>
16.	Air Quality	<p>9.7 Air Quality</p> <p>Please address dust impacts per comment under Section 7.7 Air Quality above.</p>	<p>Please refer to the response to comment #13</p>
17.	Natural Environment	<p>10.1.2.1.1.1. Terrestrial</p> <p>It is not clear why the bridges are proposed to be netted after construction to prevent reoccurring bird nesting - particularly if the species is a species at risk. Mitigation should not preclude reinhabitation after construction and should include the re-creation of suitable habitat outside the bridge structure or the creation of suitable habit within the structure to allow the bird species to re-inhabit the environment after construction.</p>	<p>The comment refers to netting the bridges following breeding bird surveys prior to construction start so as not to delay construction if birds nest on the bridges following the surveys. There will be no netting on the bridges following construction.</p>
Volume 4			
18.	Consultation	<p>Please include correspondence of August 2016 (noted above), as well as details of the teleconference with Markham, Town of Whitchurch-Stouffville and York Region.</p>	<p>Consultation description and records provided in Volume 4 and Appendix L will be updated to include the noted details.</p>
Appendix A1 (Natural Environment Baseline Conditions Report)			
19.	Natural Environment	<p>The following comments relate to the background natural environment data presented in Appendix A1. We ask that Metrolinx review the comments and determine whether additional field investigations may</p>	<p>ELC community classifications were completed based on desktop review and field investigations were completed in some areas to verify classifications as outlined in the Natural Environment Assessment Report contained in Appendix</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		be necessary to verify the Ecological Land Classifications (ELC). Any necessary revisions should be reflected in the draft EPR (Volume 3). 1. (Appendix A1 – Figure SV-k) City staff commissioned a natural heritage study for the update of the Milliken Centre Secondary Plan update. A new wetland has been identified adjacent to the Stouffville Line, where the railway crosses Kennedy Road (north of Steeles Ave/Milliken Station). The wetland has been staked in the field in consultation with TRCA staff. North of Kennedy Road, the study identified a FOD7 (Deciduous Forest) directly adjacent to the railway. Appendix 1 below shows the identified ELC communities. We request that ELC data and discussion be updated to reflect this information.	A. More detailed information will be gathered regarding canopy cover, vegetation communities, etc. as part of the Tree/Vegetation surveys that will be completed during the detailed design phase of the project. Notwithstanding this, the information provided regarding ELC communities by the City will be reviewed/considered and Appendix A/EPR Volume 2 and 3 will be updated as required. MNRF provided updated SAR data on March 24th, 2017. This data identified habitat for Redside Dace within the Rouge River. The report will be updated with this information. On May 25 2017 Metrolinx received shapefiles from City of Markham for Provincially Significant Wetlands and Unevaluated Wetlands. This information will be reviewed and incorporated into the EPR as required.
20.	Natural Environment	2. (Appendix A1 - Section 4.5.4.3) – It is staff’s understanding that the Rouge River is considered Recovery Habitat for Redside Dace. Please clarify with MNRF staff.	MNRF provided updated SAR data on March 24th, 2017. This data identified habitat for Redside Dace within the Rouge River. The Natural Environment Assessment Report contained in Appendix A will be reviewed and updated with this information as required.
21.	Natural Environment	3. (Appendix A1 – Figure SV-n) Wetlands were identified in the City’s 1993 Natural Features Study and in the City’s Official Plan 2014 mapping where the rail line crosses Eckhardt Creek (i.e. east of Couperthwaite Crescent). Please confirm that the WOD identified here has been verified through appropriate field investigations.	The City of Markham provided natural heritage data, including Natural Heritage Network, Valleylands and Streams Corridors, and Woodlands. If wetland features are present within the study area, please provide the appropriate digital files and MX will review and update the report as/if required.
22.	Natural Environment	4. (Appendix A1- Figure SV-q) A city-owned parkland (Mt Joy Community Centre) is located north of 16th Avenue and west of the rail line. Please review the classifications proposed in this location - lands identified as CVC (Commercial and Institutional) may be more appropriately classified as CGL (Green Lands).	The building and property immediately surrounding the area (Mt Joy Community Centre) was previously identified as CVC. Based on the City’s comments and additional review, the area may be reclassified as CGL, as this classification includes parkland/ community areas. The EPR will be updated to reflect this.
23.	Natural Environment	5. (Appendix A1 – Figure SV-t) Unevaluated wetlands have been identified in the City’s Official Plan mapping and in MNRF mapping along the entire west side of the rail line. Please confirm that the WOD has been verified through appropriate field investigations. `	Unevaluated wetlands were displayed on the terrestrial mapping. ELC was completed by air photo interpretation. The difference between wooded and swamp areas are difficult to identify as they are both treed. We will further overlay the MNRF unevaluated wetland layer over our ELC data to identify any possible wetland/ swamp areas. Further, field investigations will be completed as required during detailed design.
Volume 3			
24.	Natural Environment	Impacts to the Natural Environment (Stouffville Corridor) The following comments are provided based on a review of sections 7.1.7 – 7.1.10 of Volume 3 of the draft EPR which outlines natural heritage impacts along the Stouffville Corridor: 1. The summary tables provided in this section are useful to understand the area of total vegetation removal by ELC Community. However, it is not yet clear how the Metrolinx Compensation Protocol will be applied. We would like clarification that the Compensation Protocol will take into account local municipal Official Plans. For instance, in Markham, all wetlands and woodlands are identified as part of the Natural Heritage Network (i.e. Natural Heritage System) and we recommend that all impacts to woodlands and wetlands should be compensated for in an ecosystem-based approach to achieve no net loss of natural heritage features.	Noted. Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol. For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor. For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan. Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed. Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
25.	Natural Environment	<p>1. We would appreciate a summary of impacts summarized by municipality. By reviewing Tables 7-3, 7-9, 7-11, 7-13, and 7-15 (refer to Appendix B), we estimate that the total area of natural heritage features being impacted in Markham includes:</p> <ul style="list-style-type: none">1.36 ha of Deciduous Woodland, consisting of 1.294 ha within the right-of-way and 0.07 ha outside of the right-of-way.0.127 ha of wetlands, entirely within the ROW.	<p>Due to the large scale of the project, the report has been organized by segments within each rail corridor; it was not feasible to further divide the segments by municipal boundaries. Notwithstanding this, we have provided the following summary for the areas of removal within City of Markham for information:</p> <ul style="list-style-type: none">Approx. 1.176 ha of Deciduous Woodland (1.11ha within ROW, 0.066 outside of ROW)Approx. 0.127 ha of wetlands (0.023 Marsh, 0.020 Shallow Marsh, 0.084 Swamp) all within the ROW
26.	Natural Environment	<p>Metrolinx Tree/Vegetation Compensation Protocol</p> <p>1. The specific commitment for tree-related and natural heritage mitigation is deferred to the finalization of the Metrolinx Tree/Vegetation Compensation Protocol. Staff actively participated in the compensation workshops hosted by Metrolinx staff and will continue to work co-operatively to improve the current compensation approach to meet or exceed the various municipal requirements within Metrolinx’s jurisdiction. Metrolinx should move quickly to finalize their Compensation Protocol and incorporate the committment into the Environmental Project Report.</p>	<p>See response to item # 24</p>
27.	Natural Environment	<p>2. We have reviewed Table 1-4 Key Components of Proposed Metrolinx Tree/Vegetation Compensation Protocol (Volume 5) and wish to re-iterate the comments we provided at the compensation workshops:</p> <p>a. <i>Metrolinx Right of Way Trees</i> – The City has several established programs for environmental initiatives that may align with Metrolinx’s desire to carry out a community restoration/greening project:</p> <ul style="list-style-type: none">i. Markham Trees for Tomorrow Program - funding program for NGO tree planting projects.ii. Markham Environmental Sustainability Fund - funding program for community-led projects. In the past, this has included naturalization projects, rain gardens, and environmental outreach.iii. Markham Environmental Land Acquisition Fund - funding reserve for the acquisition of environmentally sensitive lands. <p>b. <i>Private Property Trees</i> – All efforts should be made to provide replacement trees to the impacted property owner. Where this is not achievable (i.e. refused by property owner or insufficient area for plantings), tree plantings should be directed to City-owned lands through a cash-in-lieu payment of \$600 per tree. The City’s Tree Preservation Technician advises that a single permit may be achievable for all affected properties. At a minimum, the following would be required:</p> <ul style="list-style-type: none">Site plan with tree accurately plotted, numbered etcJustification for each of the removals	<p>See response to item # 24</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">All of the addresses of the private properties where trees are being removed and owner authorizationThe trees (with details) being replanted and on which addressesThe remainder showing as a cash-in-lieu lump sum payable to the City Individual trees that are on private property should be replaced in accordance with the current standards of the City’s Tree Preservation By-law: <ul style="list-style-type: none">i. 20 – 40 cm dbh – 2:1 ratioii. 40+ cm dbh - 3:1 ratio <p>c. Municipal Trees – Trees within the City’s boulevards should be replaced at the following ratios:</p> <ul style="list-style-type: none">i. 20-40 cm dbh – 2:1 ratio ASIii. 40+ cm dbh – 3:1 ratio <p>d. <i>Natural Heritage Trees</i> – Staff support the proposal for trees located within a natural heritage feature (i.e. within a woodland, forest, marsh, or swamp ELC community) be replaced on an ecosystem approach. The City supports the principle of ‘no net loss.’ Our preference is for compensation to occur within the immediate vicinity of the disturbed feature.</p> <p>e. <i>Species at Risk</i> – no comment.</p>	
28.	Cultural Heritage, Visual	Vol 1, p. xxxv Vol 1, p 73, Concern about impact of vegetative clearing zone in heritage conservation districts. Must ensure that is does not de-stabilize mature vegetation.	See Sections 7.3.8.2 and 7.3.9.2 Net Effects of EPR Volume 3 As per Table 3-1 “Summary of Potential Cultural Heritage Effects, Mitigation Measures, and Monitoring Commitments” of the Cultural Heritage Impact Assessment Report (Appendix C), mitigation measures for potential alterations to HCDs due to the installation of OCS is as follows: “Consultation with heritage staff at the municipality will be undertaken as required to review the proposed plans for OCS related infrastructure along Metrolinx rail ROW’s, as part of determining whether heritage permits are required”. Potential impacts/effects are identified as: <ul style="list-style-type: none">Alteration through displacement of heritage attributes and/or disruption of settingAlteration through removal of trees and vegetation to either side of the rail corridor It should also be noted that further more detailed tree inventories will be undertaken along all rail corridors during detailed design to quantify in further detail tree/vegetation removal requirements; this will include preparation of arborist reports (as required), delineation of tree protection zones, etc.
29.	Visual	Vol 1, p 56 OCS Support Structure – steel support structures will have a visual impact on the community especially in village areas Colour will be important	Visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
30.	Visual	Vol 1, p.58 Visual impact of Support Structure 7.6m (25ft) to 12m (39ft) in the community	See response to Comment #29.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
31.	Cultural Heritage	<p>Vol 2, p.xcv</p> <p>31 “cultural heritage resources” were identified but none were identified as “heritage properties” - what does mean.</p> <p>Should use municipal addresses and not just heritage building names.</p> <p>Why are CHERs not required for some properties- is it because they are adjacent to and not within the Metrolinx owned corridor?</p>	<p>This should say: <i>A total of 31 properties were subject to screening questions. Of these, 23 were determined to be non-heritage properties, 7 were determined to be protected property adjacent to the rail corridor, and one was determined to be a Conditional Heritage Property.</i> The text will be revised to make this clearer.</p> <p>Text will be revised to include municipal addresses of the identified properties in that paragraph.</p> <p>As per Section 5 of the Cultural Heritage Screening Report (Screening Outcomes and Recommendations), in accordance with the Metrolinx Draft Terms of Reference for Consultants: Cultural Heritage Screening Report for Built Heritage Resources and Cultural Heritage Landscapes (2014), CHERs are recommended for properties that are screened as Potential Provincial Heritage Properties (PPHP) and Conditional Heritage Properties (CHP).</p>
32.	Land Use	<p>Vol 2, xcvi</p> <p>Land Use and Socio-economic- there are two additional Secondary Plans which should be mentioned- Unionville Core Area Secondary Plan (PD 1-12) and Main Street Markham Area Secondary Plan (PD 1-14)</p>	<p>The Land Use and Socio-Economic Report (Appendix E) has been updated to include reference to the Unionville Core Area Secondary Plan and the Main Street Markham Secondary Plan.</p>
33.	Cultural Heritage	<p>Vol 2, p.29</p> <p>Focus appears to be on provincial properties not local heritage properties. Please include local heritage properties in analysis an discussion</p>	<p>This confusion is a result of terminology. Note that local heritage properties were considered. Following Metrolinx terminology ‘provincial heritage properties’ refers to heritage resources located on Metrolinx-owned/occupied land, while ‘conditional heritage properties’ refers to those located on land not owned/occupied by Metrolinx.</p>
34.	Land Use	<p>Vol 2, p.349</p> <p>6.5.7.1- the rail corridor also passes through Mixed Use Heritage Main Street and Residential Low Rise designations in the Unionville Heritage Conservation District area.</p> <p>6.5.7.2.1 – report missed two Secondary Plans which should be mentioned:</p> <p>Unionville Core Area Secondary Plan (PD 1-12) and Main Street Markham Area Secondary Plan (PD 1-14)</p> <p>As to future development, Council has approved in principle the Main Street Unionville Community Vision Plan which contemplates extensive development and special projects along the rail corridor on Station Lane (Historic Unionville Train Station and Stiver Mill complex corridor adjacent to the tracks).</p> <p>6.5.8 (Markham Station to Mount Joy Station)-</p> <p>6.5.8.1 – report neglects to mention the extensive amount of Residential Low Rise through which the corridor passes.</p> <p>6.5.8.2 –report fails to mention the Main Street Markham Area Secondary Plan (PD 1-14) which has specific policies about the Markham Train Station lands</p>	<p>The Land Use and Socio-Economic Report (Appendix E) has been updated to include an overview of the Unionville Heritage Conservation District, Unionville Core Area Secondary Plan, Main Street Markham Area Secondary Plan, as well as the Main Street Unionville Community Vision Plan. Additional text has been added to note the presence of low rise residential adjacent to the corridor in specific segments.</p>
35.	Visual	<p>Vol 2, p.376/ 377</p> <p>6.8.7 (Unionville Station to Markham Station)</p> <p>In speaking to the issue of Visual implications, this section ignores the fact that north of Highway 7, the rail corridor runs through the heart of the Unionville Heritage Conservation District, and the rail corridor is a major visual part of the historic Unionville Train Station and Stiver Mill Complex (both are now major community/civic facilities) on Station Lane from Eureka Street to the Main Street recycling depot. These buildings are immediately adjacent to the tracks. Electrification will be highly visible not only in the</p>	<p>The list of high visual impact areas will be reviewed and updated in EPR Volumes 2 and 3 as appropriate taking into consideration the City’s comments.</p> <p>In addition, please see response to comment #29.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		residential areas but also along Station Lane and at the Main Street Unionville crossing which is a picturesque gateway and traditional photo location.	
36.	Visual	Vol 2, p.378 6.8.8 (Markham Station to Mount Joy Station) The report notes the visual impact of electrification on the historic Markham Train Station environment (should note that the station is not the official gateway to the heritage district as the entry to the district is at 16 th Ave)	This section of Vol 2 will be updated to incorporate the City’s comments provided.
37.	Cultural Heritage	Vol 3, p. xxviii Environmental Project Report <ul style="list-style-type: none">- The Markham GO Station is the only property identified in Markham.- the actual train station building and underlying property is owned by the City of Markham and not Metrolinx- recommend that the Historic Unionville Train Station and Stiver Mill building should be have CHER as they deserve strategies for protection. The Historic Train Station was once the local GO Station before it was moved to the new station south of Hwy 7.	The station will require grounding and bonding as outlined in Section 3.13 of Vol 1. Striver Mill building is outside the limits of the project study area. To clarify, a CHER was completed by Metrolinx in 2017 as part of the GO Rail Network Electrification Project and was still in progress at the time of the Draft EPR circulation to review agencies. The CHER will be included in the Final EPR. It is noted that the CHER does state “The site is owned by Metrolinx, with the exception of the station itself, owned by the Corporation of the City of Markham.”
38.	Cultural Heritage	Vol 3, p.775, 776 7.3.8 (Unionville Station to Markham Station) – cultural heritage resources. Table 7-22 –Potential Footprint Impacts and Mitigation Measures <ul style="list-style-type: none">- Not sure why the Markham Train Station would be impacted (disruption of setting and displacement of heritage attributes, but the Historic Unionville Train Station would not) - Unionville should have the same comments. Also, the Stiver Mill Complex should be added to the chart as a significant cultural heritage resources that is impacted (disruption of setting) 7.3.8.2 Net Effects <ul style="list-style-type: none">- the same commentary used in 7.3.9.2 for <u>Markham Train Station</u> should be used for both the Historic Unionville Train Station and Stiver Mill as the potential effects would be the same and mitigation strategy.	Unionville Train Station is a protected heritage property adjacent to the rail corridor and so will not be directly impacted by the undertaking. The Markham GO Station will be impacted by the installation of OCS attachments. Although they have different municipal addresses, the Stiver Mill Complex (9 Station Lane) is located within the same parcel of land that is occupied by Unionville Train Station (7 Station Lane) and so all comments discussing the Unionville Train Station are applicable to the parcel as a whole and any other structures located within. Both structures have been assessed.
39.	Cultural Heritage	Vol 3, p.777 The Markham Train Station was designated under the Federal Railway Station Protection Act, but according to this system, it is not of significance from a provincial perspective. Seems wrong. Any designated building or building of identified merit in a heritage conservation district that is directly or indirectly impacted by this project should be recognized and not just those of provincial significance	The Cultural Heritage Screening Report recognizes that the Markham Train Station (214 Main Street) has been protected under the following instruments: National Historic Site; Part IV and V Designations under the OHA (By-Law 204-91 and By-Law 120-90); Designated under the Heritage Railway Stations Protection Act. With respect to the Markham Train Station, a CHER was completed by Metrolinx in 2017 as part of the GO Rail Network Electrification Project and was still in progress at the time of the Draft EPR circulation to review agencies. The CHER will be included in the Final EPR. It is noted that the CHER does state “The site is owned by Metrolinx, with the exception of the station itself, owned by the Corporation of the City of Markham.” The CHER will be provided in Appendix M of the final EPR and incorporated in final EPR. An HIA will be completed during detailed design to address potential indirect and direct impacts of the project.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
40.	Cultural Heritage	Vol 5, p. 7 1.3.3 Municipal <ul style="list-style-type: none">- to ensure that all municipal concerns are addressed, the listing should also include submissions relating to Heritage Permits for alterations to cultural heritage resources and landscapes as per the Ontario Heritage Act legislation.	As per their Heritage Permit Application form, Markham requires permits for “external alterations to individually designated properties, and for properties located within a heritage conservation district and Markham Heritage Estates subdivision”. This will be added to Volume 5.
41.	Visual	Vol 5, p.57, 58 1.11 Visual/ Aesthetics <i>Areas of Special Visual/ Aesthetic Consideration</i> Stouffville Corridor <u>High Visual Impact</u> <ul style="list-style-type: none">- add Historic Unionville Train Station and Stiver Mill Corridor along Station Lane- add Main Street railway crossing – gateway into historic commercial area (Unionville Heritage Conservation District)- add Markham Train Station area and Main Street North Crossing (Markham Village Heritage Conservation District) The proposed infrastructure will have a high visual impact on the above resources/areas.	The list of high visual impact areas will be reviewed and updated in EPR Volumes 2 and 3 as appropriate taking into consideration the City’s comments. In addition, please see response to comment #29.
42.	Visual	Vol 5, p. 59 1.11.1 OCS Infrastructure <ul style="list-style-type: none">- should indicate that colour of the infrastructure will be one element that can be considered to help minimize visual effects of OCS elements	See response to comment #29.
43.	Spelling/Grammar	Vol 5, p.59 1.11.4 GO Stations The spelling of <u>color</u> should be <u>colour</u> This text reference should also apply to the historic Unionville Train Station and Stiver Mill complex which are former railway buildings adjacent to the open track.	Noted, spelling will be corrected
44.	Cultural Heritage	Vol 5, p. 65 1.19 Municipalities Please add in the following: <ul style="list-style-type: none">• Coordinate with Heritage Staff (or if only Markham requests this – Markham Heritage Section staff) to review detailed designs affecting City heritage resources/properties of interest and incorporate feedback/input into final design as appropriate. <i>(same clause as given to City of Toronto on page 66)</i> consultation with the City of Markham Planning Department during detailed design to ensure land use/visual considerations associated with the Historic Unionville Train Station/Stiver Mill Corridor are	As outlined in Vol 5 Section 1.4.3.3, <i>With respect to any/all proposed bridge or rail overpass modifications, if during detailed design a change to the proposed modification to any structure is identified that differs from those described in EPR Volume 1, the process for determining whether or not the structure has cultural heritage interest or value and subsequently the determination of measures to preserve the cultural heritage attributes of the structure will be strictly followed as outlined in Section 1.5 of this EPR Volume. This process will involve consultation/coordination with the Ministry of Tourism, Culture and Sport and relevant municipalities.</i> Also a general commitment will be added to Volume 5 to indicate that Metrolinx will continue to coordinate with municipalities during detailed design on planning and design matters.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		coordinated with the City’s proposed development and land use plans as identified in the Main Street Unionville Community Vision Plan as adopted.	
45.	Cultural Heritage	<p>Appendix C, p.18</p> <p><i>Metrolinx Interim Cultural Heritage Management Process (2013)</i></p> <p>“This Cultural Heritage Screening Report fulfills Step 1 of the above process. This involves pre-screening all properties that Metrolinx owns, controls for the purposes of making alterations, or plans to acquire</p> <p>To identify properties that are 40 or more years old and which have known or potential cultural heritage value. All known and potential cultural heritage resources are identified during this stage using a screening checklist.”</p> <p><u>Concerned that properties that are not to be acquired by Metrolinx are not addressed such as the Historic Unionville Train Station and the Stiver Mill complex (7 and 11 Station Lane).</u></p> <p>11 Station Lane (Stiver Mill Complex) should be either:</p> <ul style="list-style-type: none">• Conditional Heritage Property: The property is not owned or occupied by Metrolinx and the answer to at least one question is ‘yes’ (except age).• Adjacent Land: The property is adjacent to a protected heritage property. <p>“A Cultural Heritage Evaluation Report (CHER) will be recommended where the property has been screened as a Potential Provincial Heritage Property, or a Conditional Heritage Property.”</p>	<p>The Stiver Mill Complex is located within the same property parcel as the Historic Unionville Train Station, which is a protected heritage property adjacent to the rail corridor (Adjacent Land)</p>

Table 1-29: City of Mississauga Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF MISSISSAUGA			
1.	General Comment – Kitchener Corridor	Kitchener Corridor: There are currently six (6) watercourse erosion control projects forecasted on the City’s 10-yr Capital Works programming plan; where the upstream or downstream limits of construction abut the Kitchener GO rail corridor. The projects have tentative construction start dates ranging from 2018 to 2025 which are subject to change on a yearly basis. Please review “2017-2026 Watercourse and Storm Drainage Improvements” Map provided, and consider the timing of electrification activities that will traverse the watercourses proposed for erosion control works. The City should be notified to coordinate/mitigate any potential conflicts (contractor, staging, timing etc.).	<p>Noted. As the City’s 10-year Capital Works programming plan progresses with respect to the forecasted watercourse erosion control projects, it is recommended that the City keep Metrolinx well apprised. In addition to the provided map of timelines, any additional information on details of the works should be provided to Metrolinx for overlap areas.</p> <p>Continued coordination with local municipalities regarding the project’s design and construction schedule will be undertaken during detail design.</p>
2.	General Comment – Lakeshore West Corridor	Lakeshore West Corridor: There are currently five (5) watercourse erosion control projects forecasted on the City’s 10-yr Capital Works programming plan; where the upstream or downstream limits of construction abut the Kitchener GO rail corridor. The projects have tentative construction start dates ranging from 2020 to 2026 which are subject to change on a yearly basis. Please review “2017-2026 Watercourse and Storm Drainage Improvements” Map provided, and consider the timing of electrification activities that will traverse the watercourses proposed for erosion control works. The City should be notified to coordinate/mitigate any potential conflicts (contractor, staging, timing etc.).	Please see response to Comment #1.
3.	Stormwater Management	<p>Please see Appendix K – SWM Assessment Report</p> <p>It is noted that there are no Tap/TPS or SWS stations proposed for construction within the City of Mississauga. Should the location of any proposed Tap/TPS or SWS stations (or any appurtenances) be relocated to within Mississauga city-limits, please ensure these plans are circulated to Environmental Services Section for review from a stormwater management perspective.</p>	<p>Acknowledged.</p> <p>No relocation of Traction Power Facilities to within the City of Mississauga limits is anticipated. Should this change consultation with the City and stakeholders will be undertaken as noted in Environmental Project Report (EPR) Volume 5 as part of a Transit Project Assessment Process (TPAP) addendum.</p>
4.	Stormwater Management	<p>Re: Page 22-23 – Culvert Capacity Criteria</p> <p>Should relief culverts be required at watercourse crossing locations within Mississauga city-limits, please circulate design summaries/plans to Environmental Services Section for review.</p>	As noted in EPR Appendix K, no footprint impacts to the culverts or watercourses are anticipated to result from the installation of overhead contact system (OCS) within the existing corridor above the culverts. No changes to the track design are proposed, as such no additional culverts will be required as part of the Electrification Project.
5.	Visual Impact	There is concern regarding the visual impact of the overhead system. In the report, it is noted that most areas in Mississauga along the corridor will experience a negligible to low impact associated with the infrastructure given existing vegetation. However, it is noted that in the area between Port Credit and Clarkson that there is an increase in visual impact. Mitigation (e.g. vegetative screening) is noted as being explored in the next phase (detail design); however, Metrolinx should provide additional details on who they will be working with (e.g. City, Property Owners) to determine the appropriate mitigation measures.	<p>Visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.</p> <p>Metrolinx will work with affected parties during detailed design as required.</p>
6.	Natural Environment – Tree/Vegetation Removal	Please be advised that trees located within the GO Transit Right of Way are exempt from the City By-Law’s with regard to removal and replacement however trees on private property are not. It is the City’s expectation that Metrolinx/GO Transit will act as a liaison between the owners of the land on which the tree in question is located and facilitate the removals process as per City policy. The pertinent City of Mississauga By-Laws, standards and information have	Acknowledged. Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		been provided as attachments to this memo. The information and processes that were provided to the HuLRT team will apply to this project as well.	<p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
7.	Archaeological Impacts	Appendix D- Archaeological Assessment Report: The recommendations on p.122 and 133 do not include information for lands within the City of Mississauga. P. 43 of the report appears to indicate that no further archaeological work will be required. Please clarify what are the recommendations for lands within the study area that fall within the City of Mississauga.	<p>Lands within the City of Mississauga were included and assessed as part of the Stage 1 Archaeological Assessment (AA) Report. As no Traction Power Facilities are proposed within the City of Mississauga, impacts will be limited to those proposed along the existing Lakeshore West (LSW) corridor Right of Way (ROW) in association with the OCS footprint and Tree/Vegetation Clearing Zones.</p> <p>As noted in Sections 4.2.6 (pg. 122) and Section 5.2 (pg. 133) the LSW OCS footprint has been assessed. The property inspection confirmed that the OCS footprint includes an active GO Rail Corridor on disturbed lands. Both sections note archaeological potential has been removed, and no further archaeological assessment will be required.</p>
8.	Archaeological Impacts	Archaeology in general: Heritage Planning, requests to be forwarded a copy of all archaeological reports and corresponding Ministry of Tourism, Culture and Sport letters for comment pertaining to lands assessed within the City of Mississauga	Archaeological Assessment reports prepared for the GO Rail Network Electrification Project were provided as Appendix D of the draft EPR circulated to key stakeholders for review and comment in January 2017. The Stage 1 AA report has been submitted to the City of Mississauga, Indigenous Communities, as well as Ministry of Tourism, Culture and Sport (MTCS) for review/comment.
9.	Cultural Heritage	<p>Appendix C- Part C 2: The Port Credit Arena and Credit River Bridge have been included in the report.</p> <p>It is noted that no project activities are foreseen for the Port Credit Arena at 40 Stavebank Road. However, construction impacts are noted under Avoidance/Mitigation/compensation column on Table 6-1. The property is designated part IV of the OHA and therefore a heritage permit may be required in the event that alterations are proposed.</p> <p>Credit River Bridge: The bridge is listed in the City of Mississauga’s heritage register. As such, proposed demolitions require a heritage permit. Furthermore, the property is subject to the Standards and Guidelines for Conservation of Provincial Heritage Properties as it is owned by Metrolinx. A detailed Heritage Impact Assessment and Conservation Plan may be required to be submitted for review and approval to the Ministry of Tourism Culture and Sport depending on the proposed alterations to the bridge. The commitment to complete an HIA is noted in the</p>	<p>Noted.</p> <p>Modifications to the Credit River Bridge are proposed in order to accommodate electrification infrastructure as described in EPR Volume 3 and Appendix C.</p> <p>Demolition of the structure is not proposed. A Heritage Impact Assessment (HIA) is in progress to assess the proposed modification and will be shared with the City of Mississauga and MTCS for review and comment. In addition, this assessment will be summarized and appended to the Final EPR for the 30-day public review period upon issuing the TPAP Notice of Completion.</p> <p>Continued coordination with local municipalities regarding the project’s design, including impacts to heritage properties will be undertaken as required during detail design.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																					
		report. Heritage Planning requests to be kept up to date with regards to proposed works and submissions to the Ministry (MTCS).																						
10.	Cultural Heritage	Credit River Bridge CHER: p. 25, 27 ad 28 images are not showing. It is not clear what heritage attributes are proposed by the consultant as part of the identification of the bridge as having provincial significance	Errors with the images noted will be reviewed and corrected. Heritage attributes of the structure are identified in the Statement of Cultural Heritage Value (SCHV) provided in Appendix M6.																					
11.	Natural Environment – Tree/Veg Removal	We’ve added a list of the acceptable trees for planting in the City of Mississauga. Another key component that we would require would be an inventory of all of the trees being removed and protected along any construction corridor. This way we can adjust our inventory as needed and have an accurate idea of what we needs to be replaced as a result of removals and the linked construction activities.	Noted. The list of acceptable trees for planting in Mississauga will be considered as the Metrolinx Vegetation Compensation Protocol is developed. Please note that a conservative quantification of areas of removal within and outside the Metrolinx ROW was provided in EPR Volume 3 and Appendix A2 based on ELC analysis. Refer to Tables 4-12, 4-14, 4-16 in EPR Volume 3 for vegetation removal areas expressed in hectares. During detail design, more detailed Tree Inventories will be completed.																					
		<p>CITY OF MISSISSAUGA</p> <p>ACCEPTABLE STREET TREE SPECIES</p> <ul style="list-style-type: none">70% of planting should be selected from the proven performing list30% of planting should be selected from the notable performing list <table><tr><th colspan="3">TABLE 1: PROVEN PERFORMING FULL FORM TREES</th></tr><tr><th>Botanical Name</th><th>Common Name</th><th>Characteristics</th></tr><tr><td><i>Acer saccharinum</i></td><td>Silver Maple</td><td>Develops large crown, plant in locations with adequate space</td></tr><tr><td><i>Aesculus glabra</i></td><td>Ohio Buckeye</td><td>Showy flower spikes followed by seed husks covered in soft spines. Less susceptible to leaf scorch and leaf blotch than horsechestnut</td></tr><tr><td><i>Acer x freemanii</i> 'Autumn Blaze'</td><td>Autumn Blaze Maple</td><td>Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds</td></tr><tr><td><i>Gleditsia triacanthos</i> var. <i>inermis</i></td><td>Honeylocust</td><td>Small leaves provide a filtered shade Can be susceptible to defoliation by leafhoppers Acceptable cultivars for municipal roads: Shademaster</td></tr><tr><td><i>Gymnocladus dioicus</i></td><td>Kentucky Coffee Tree</td><td>Coarse branching structure, large double-compound leaves with small leaflets. Dioecious tree with male and female plants, male tree preferred</td></tr></table>	TABLE 1: PROVEN PERFORMING FULL FORM TREES			Botanical Name	Common Name	Characteristics	<i>Acer saccharinum</i>	Silver Maple	Develops large crown, plant in locations with adequate space	<i>Aesculus glabra</i>	Ohio Buckeye	Showy flower spikes followed by seed husks covered in soft spines. Less susceptible to leaf scorch and leaf blotch than horsechestnut	<i>Acer x freemanii</i> 'Autumn Blaze'	Autumn Blaze Maple	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds	<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Honeylocust	Small leaves provide a filtered shade Can be susceptible to defoliation by leafhoppers Acceptable cultivars for municipal roads: Shademaster	<i>Gymnocladus dioicus</i>	Kentucky Coffee Tree	Coarse branching structure, large double-compound leaves with small leaflets. Dioecious tree with male and female plants, male tree preferred	Thank you for providing this information – it will be reviewed in the context of Section 1.3.3 of EPR Volume 5 and incorporated as appropriate.
TABLE 1: PROVEN PERFORMING FULL FORM TREES																								
Botanical Name	Common Name	Characteristics																						
<i>Acer saccharinum</i>	Silver Maple	Develops large crown, plant in locations with adequate space																						
<i>Aesculus glabra</i>	Ohio Buckeye	Showy flower spikes followed by seed husks covered in soft spines. Less susceptible to leaf scorch and leaf blotch than horsechestnut																						
<i>Acer x freemanii</i> 'Autumn Blaze'	Autumn Blaze Maple	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds																						
<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Honeylocust	Small leaves provide a filtered shade Can be susceptible to defoliation by leafhoppers Acceptable cultivars for municipal roads: Shademaster																						
<i>Gymnocladus dioicus</i>	Kentucky Coffee Tree	Coarse branching structure, large double-compound leaves with small leaflets. Dioecious tree with male and female plants, male tree preferred																						

TABLE 2: NOTABLE PERFORMING FULL FORM TREES		
Botanical Name	Common Name	Characteristics
<i>Aesculus hippocastanum</i>	Horsechestnut	Showy flower spikes, less seed production than Ohio buckeye, seed husks covered in soft spines Susceptible to leaf scorch and leaf blotch
<i>Celtis occidentalis</i>	Hackberry	Sensitive to de-icing salts (airborne spray). Use in locations where exposure to salt spray will be minimized
<i>Ginkgo biloba</i> 'Maygar'	Ginkgo	Tolerant of urban salt road conditions and urban pollution
<i>Quercus bicolor</i>	Swamp White Oak	Of the oak species, this has shown the greatest tolerance to municipal road conditions. Still considered sensitive to de-icing salts (airborne spray). Use in locations where exposure to salt spray will be minimized
<i>Quercus macrocarpa</i>	Bur Oak	Has shown tolerance to municipal road conditions. Still considered sensitive to de-icing salts (airborne spray). Use in locations where exposure to salt spray will be minimized
<i>Tilia cordata</i>	Littleleaf Linden	Sensitive to desiccation from winter winds and salt. Plant in locations where exposure to salt spray will be minimized and locations sheltered from prevailing winds. Acceptable cultivars include: Glenleven and Greenspire
<i>Ulmus japonica</i> x ' <i>Ulmus Wilsoniana</i> '	Accolade Elm	Initial plantings of this species have shown tolerance to the growing conditions on municipal road allowances. Experience with this species is limited, but positive and should be used in limited quantities until further evaluation of its performance is completed.

TABLE 3: PROVEN PERFORMING SMALL FORM (Hydro Acceptable) TREES		
Botanical Name	Common Name	Characteristics
<i>Malus</i>	Royalty or Profusion Crabapple	Full sunlight; low canopied tree; should be planted behind sidewalk/pedestrian zone; highly tolerant of urban pollution
<i>Syringa reticulata</i>	Ivory Silk Lilac	Showy lilac-like blooms in early summer, followed by seed capsules that persist on the tree. Fairly pest and disease resistant
<i>Picea pungens</i>	Colorado Spruce	Sensitive to desiccation from winter winds and de-icing salt. Plant a minimum of 6 m from edge of road, and preferably in a sheltered location. Should always be planted behind sidewalk/pedestrian zone as per CPTED recommendations. Susceptible to yellow-headed spruce sawfly defoliation
<i>Picea glauca</i>	White Spruce	More sensitive to desiccation from winter winds and de-icing salt than Colorado or Norway spruces. Plant a minimum of 6 m from edge of road, and preferably in a sheltered location. Should always be planted behind sidewalk/pedestrian zone as per CPTED recommendations. Can be susceptible to yellow-headed spruce sawfly defoliation
<i>Picea abies</i>	Norway Spruce	Sensitive to desiccation from winter winds and de-icing salt. Plant a minimum of 6 m from edge of road, and preferably in a sheltered location. Should always be planted behind sidewalk/pedestrian zone as per CPTED recommendations. Fairly pest and disease resistant

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																		
		<table><tr><th colspan="3">TABLE 4: NOTABLE PERFORMING SMALL FORM (Hydro Acceptable) TREES</th></tr><tr><th>Botanical Name</th><th>Common Name</th><th>Characteristics</th></tr><tr><td><i>Acer campestre</i></td><td>Hedge Maple</td><td>Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds</td></tr><tr><td><i>Carpinus betulus</i> <i>'fastigiata'</i></td><td>Pyramidal European Hornbeam</td><td>Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone</td></tr><tr><td><i>Pyrus calleryana</i></td><td>Ornamental Pear</td><td>Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds. Acceptable cultivars for municipal roads include: Chanticleer Pear</td></tr><tr><td><i>Quercus robur</i> <i>'fastigiata'</i></td><td>English Pyramidal Oak</td><td>Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone</td></tr></table>	TABLE 4: NOTABLE PERFORMING SMALL FORM (Hydro Acceptable) TREES			Botanical Name	Common Name	Characteristics	<i>Acer campestre</i>	Hedge Maple	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds	<i>Carpinus betulus</i> <i>'fastigiata'</i>	Pyramidal European Hornbeam	Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone	<i>Pyrus calleryana</i>	Ornamental Pear	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds. Acceptable cultivars for municipal roads include: Chanticleer Pear	<i>Quercus robur</i> <i>'fastigiata'</i>	English Pyramidal Oak	Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone	
TABLE 4: NOTABLE PERFORMING SMALL FORM (Hydro Acceptable) TREES																					
Botanical Name	Common Name	Characteristics																			
<i>Acer campestre</i>	Hedge Maple	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds																			
<i>Carpinus betulus</i> <i>'fastigiata'</i>	Pyramidal European Hornbeam	Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone																			
<i>Pyrus calleryana</i>	Ornamental Pear	Sensitive to desiccation from winter winds. Use in locations sheltered from prevailing winds. Acceptable cultivars for municipal roads include: Chanticleer Pear																			
<i>Quercus robur</i> <i>'fastigiata'</i>	English Pyramidal Oak	Species suitable for planting adjacent to overhead hydro due to its narrow width. Must be planted a minimum of five (5) metres from overhead hydro. Should always be planted behind sidewalk/pedestrian zone																			

Table 1-30: City of Oshawa Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF OSHAWA			
1.	General Comment -Contact Update	<p>I would like to inform you that Mr. Gary Carroll has retired from the City of Oshawa since August 2016, and I have assumed the role of interim Director of Engineering Services for the City of Oshawa.</p> <p>With that said, I will be the official contact for the City of Oshawa until further notice if you require engineering comments/input on any of your projects in the future.</p>	<p>Thank you for providing updated contact information. We have updated our project contact list and confirm that you are to be the official contact for all future project notifications to the City of Oshawa.</p>
	Project Scope	<p>While the comments received generally reflect the wishes/needs of each of the respective areas, there is an underlining message coming from all of them wanting to see the GO Rail Network Electrification project be extended further east to either the proposed Thornton’s Corners Station or the Ritson Road Station.</p>	<p>Metrolinx’s plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station by 2024. It should be noted that the Traction Power Supply along the Lakeshore East corridor is being designed with Metrolinx’s long-term build out scenario in mind, and this includes the Oshawa-to-Bowmansville expansion.</p> <p>Further, while the GO Rail Network Electrification Project does not assess electrification east of the existing Oshawa GO Station, it does not preclude the provision of electrified service in the future. The scope of the GO Rail Network Electrification Project is for Metrolinx owned corridors/track. The portion of track identified for the Oshawa and Bowmanville expansion is owned by Canadian Pacific Railway (CP Rail).</p>
2.	Project Purpose	<p>Section 1.3 (Vol. 1) – Purpose of the Project</p> <p>As noted in the Draft Report, the increasing population of the Greater Toronto Hamilton Area is paced by increasing traffic congestion. Metrolinx’s commitment to electrifying the GO Transit system to bring 15-minute, two-way electrified services to core parts of the network through the Regional Express Rail (RER) program is critical to addressing the transportation needs of the GTHA’s growing population in a reliable, efficient manner. However, staff notes that while the focus is on “core” corridors, including the Lakeshore East Corridor, the Draft Report makes no mention of the planned extension of the Lakeshore East Corridor from Oshawa to Bowmanville.</p> <p>As noted in the discussion below with respect to Section 3.2 (Volume 1), the Base Case Scenario for the TPAP is the year 2025, with any additional / planned RER expansion/infrastructure works (new tracks, grade separations, etc.) in place. With the Province’s announcement in June 2016 that the the Oshawa-to-Bowmanville extension will be completed by 2024 as a natural next step in implementing the RTP, it is clear from the selection of this extension as a priority “next wave” project and the short-term timing for completion that this project is a core network component.</p> <p>In addition, among the four new GO Stations along the Oshawa-to-Bowmanville extension is a newly designated Mobility Hub, as identified in Metrolinx’s GO Station Access Plan recently approved in December 2016. With the commensurate removal of the Mobility Hub designation for the existing Oshawa GO Station, the newly identified Mobility Hub is one of only three Mobility Hubs along the entire Lakeshore East Corridor, and is located next to the Downtown Oshawa Urban Growth Centre (one of only two Urban Growth Centres in Durham designated by the Province). Metrolinx’s recognition of the planned function of the new central Oshawa GO Station as a Mobility Hub underscores the importance of the Oshawa-to-Bowmanville extension as a core corridor component of the RTP.</p> <p>In view of the foregoing, it is evident that the Oshawa-to-Bowmanville extension will form a “core” part of the Lakeshore East Corridor. Accordingly, it would be appropriate to include this</p>	<p>At the start of the Electrification project, funding for the Lakeshore East corridor expansion to Bowmanville was not confirmed. Therefore the GO Rail Network Electrification TPAP proceeded with assessing electrified service to the existing Oshawa GO Station only. As noted in our response to the March 1, 2016 email received from Andrew Nichols of the City of Oshawa, our plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station by 2024. Please note that the Traction Power Supply along the Lakeshore East corridor is being designed with Metrolinx’s long-term buildout scenario in mind, this includes the Oshawa-to-Bowmanville expansion.</p> <p>Further, while the GO Rail Network Electrification Project does not presently assess electrification east the existing Oshawa GO Station, it does not preclude the provision of electrified service in the future. A separate TPAP is envisioned in the future for electrified service to Thornton Road.</p> <p>As was referenced above, plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station. In light of the June 2016 funding announcement, Metrolinx will be reviewing these plans to determine how it can provide the best possible rail service for Oshawa residents. Once further technical analysis and negotiations with CP Rail is completed, Metrolinx will be in a position to confirm service levels at each of the existing or planned stations in Oshawa – such as Thornton Road.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		project as part of the subject TPAP, to ensure a holistic approach to assessing electrification along the Lakeshore East Corridor.	
3.	Project Scope -Lakeshore East Corridor	<p>Section 2.0 (Vol.1) – Scope of the Project</p> <p>Under Section 2.0 (Volume 1), staff notes that in terms of the Lakeshore East Corridor, the scope of the project extends only from the Don Yard Layover to the existing Oshawa GO Station. This reflects the entire length of the existing corridor, but does not reflect the Province’s recent commitment to extending the corridor from Oshawa to Bowmanville by 2024 as a priority “next wave” project. This omission seems contrary to the objective of holistically reviewing the transportation network according to a base-case scenario grounded in 2025, when additional/planned RER expansion / infrastructure works (new tracks, grade separations, etc.) such as the Oshawa-to-Bowmanville extension will be in place.</p> <p>Staff notes that while the Province’s commitment to extending the Lakeshore East GO rail corridor from Oshawa to Bowmanville by 2025 is identified in Metrolinx’s Discussion Paper for the next Regional Transportation Plan (hereinafter referred to as the Discussion Paper), the service level for the two planned stations in Oshawa along the western portion of the Oshawa-to-Bowmanville extension remains to be determined. Likewise, the service level to the existing Oshawa station east of the spur bifurcation along the Lakeshore East Corridor is shown in the Discussion Paper as undetermined.</p> <p>Staff notes that the “undetermined” status of service to the existing Oshawa GO Station is not indicated in the Draft Report. In view of the need for additional analysis in terms of planned service levels for the existing Oshawa GO Station as well as for the two new planned stations in Oshawa along the Oshawa-to-Bowmanville extension, it would be appropriate to consider service levels for the existing Oshawa GO Station in conjunction with operations along the Oshawa-to-Bowmanville extension. These two facets of the service level issue are interlinked, and should be assessed together. This includes a comprehensive assessment of electrification under the subject TPAP. Staff looks forward to working with our partners at Metrolinx to provide comments and input through further consultation on the service level issue and related implications in terms of electrification.</p> <p>Another factor that supports adjusting the scope of the TPAP to include the Oshawa-to-Bowmanville extension relates to the opportunity to optimize the achievement of multiple key growth-related objectives, including mandated Provincial Growth Plan objectives such as intensification and jobs/population targets. Specifically, the achievement of these objectives is optimized by having the planned new central Oshawa GO Station serve as the terminus for two-way all-day service within the 2025 time horizon. These objectives directly relate to various key strategies contained in the Big Move (as outlined in Section 2.1 of the Discussion Paper), including the following:</p> <ul style="list-style-type: none">• Enhance and Expand Active Transportation <p>The planned new central Oshawa GO Station is located within a Regional Centre as designated in the Durham Regional Official Plan (DROP). It is also located within a Main Central Area and Transportation Hub as designated in the Oshawa Official Plan. This Transportation Hub directly abuts the Downtown Oshawa Urban Growth Centre, and corresponds to the Mobility Hub identified at this location in Metrolinx’s recently approved GO Station Access Plan. The density and intensification targets within the Main Central Area and Mobility Hub are second only to the targets implemented by the Province and the DROP for Urban Growth Centres, and development</p>	<p>Please see response to Comment #2.</p> <p>With respect to service levels, the scope of the TPAP includes assessment of noise and vibration effects associated with increased service levels across the network (refer to Volume 3). Service levels for the existing Oshawa GO Station have been accounted for. Assessment of future stations cannot be undertaken until further design and agreements have been reached with CP Rail. Once Metrolinx is in a position to adequately assess electrification beyond the existing Oshawa GO Station a separate TPAP will be undertaken.</p> <p>Metrolinx acknowledges the City of Oshawa and Durham Region’s Official Plan objectives and looks forward to working closely beyond the GO Rail Network Electrification TPAP in creating a well-integrated transit and transportation network.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>within these areas is predicated on prioritizing the movement of people and creating pedestrian-oriented, compact, mixed-use neighbourhoods and corridors. The Central Oshawa Transportation Hub surrounding the planned central Oshawa GO Station is uniquely positioned within Oshawa to serve as the origin, destination or transfer point for a significant number of trips, and the existing and planned transportation infrastructure/services in the area provide a diverse array of options and opportunities to address the “first mile” and “last mile” of transit trips.</p> <ul style="list-style-type: none">• Improve the Efficiency of the Road and Highway Network <p>The recently approved GO Station Access Plan now shows the planned new central Oshawa GO Station as a Mobility Hub, rather than the existing Oshawa GO Station at the easterly terminus of the Lakeshore East Corridor (as was shown previously). The existing industrial land use context surrounding the current Oshawa GO Station (it is located in and surrounded by the Stevenson Industrial Area, and is far removed from any existing or planned mixed-use and/or residential development/intensification) and transportation network constraints (both for vehicles and active transportation), are such that this area lacks the contextual conditions necessary to successfully achieve core land use and transportation objectives for Mobility Hubs. Likewise, the policy framework established for the area does not support the development of a Mobility Hub around the existing station. The DROP, which has been updated through Regional Official Plan Amendment 128 to conform to the Provincial Growth Plan, does not show this station location as a Transportation Hub on Schedule “C” – Map “C3”, Transit Priority Network. Consequently, the land use and intensification policies intended for Transportation Hubs do not apply here. Through OPA 179 to the Oshawa Official Plan, the City has focused on implementing a Mobility Hub in Oshawa at the planned new central Oshawa GO Station location, where access/egress for all modes of travel is optimized through a balanced, multi-modal Level-of-Service approach, the existence of a fine-grained, high-capacity transportation network, and planned rapid transit facilities along Simcoe Street.</p> <ul style="list-style-type: none">• Build Communities that are Pedestrian, Cycling and Transit-Supportive: <p>The City has implemented active transportation and transit-supportive land use planning and urban design policies through OPA 179 to the Oshawa Official Plan. These policies include the designation of a mobility hub around the planned new central Oshawa GO Station, situated directly south of and abutting the Downtown Oshawa Urban Growth Centre. These policies articulate Oshawa’s approach to achieving the Province’s objectives and targets with respect to intensification and building complete communities, and rely on critical transportation investment and complementary service levels.</p> <p>Given the planned development of a new central Oshawa GO Station as the focus of a Mobility Hub abutting an Urban Growth Centre, the planned improvements to transit service along the Simcoe Street corridor bisecting the Mobility Hub (pursuant to the Big Move RTP, Durham’s Long Term Transit Strategy (LTTS) and the Durham Region Transportation Master Plan Update), and the constraints/limitations associated with the existing Oshawa GO Station, the achievement of various key strategies contained in the RTP would only be optimized in the Oshawa context by undertaking the following:</p> <ul style="list-style-type: none">• Identifying the Oshawa-to-Bowmanville extension as a core extension of the Lakeshore East Corridor (at least to the planned new central Oshawa GO Station, in view of its prominent role as the focus for a Mobility Hub); and• Having the planned new central Oshawa GO Station serve as the terminus for two-way all-day service to Oshawa, with electrification in place to optimize service levels (and thereby	

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		complement the planned function of the surrounding area as a Mobility Hub abutting a designated Urban Growth Centre).	
4.	Project Timeline	<p>Section 2.4 (Vol. 1) – Project Timelines</p> <p>Under Section 2.4 (Volume 1), staff notes that Table 2-1 contains a summary of anticipated project timelines. According to the table, construction for the electrification of the core rail network will occur over the 2020-2025 timeframe.</p> <p>This timeframe matches the 2024 completion dated announced by the Province for the construction of the Oshawa-to-Bowmanville extension. In addition to the factors discussed above, it would be appropriate for the subject TPAP to include this corridor extension within the scope of the assessment since they are two major rail projects running in the same area, at the same time. Further, as indicated in the approved GO Station Access Plan, the service levels for both the exiting Oshawa GO Station and for the two new GO Stations planned in Oshawa along the Oshawa-to-Bowmanville extension remain to be determined. This is understandable given that both matters are interlinked and the assessment of service levels at these locations is most effectively undertaken concurrently. Notwithstanding other relevant factors, from a cost efficiency perspective these considerations merit an expansion of the scope of the TPAP to include electrification to the planned Mobility Hub in Oshawa, abutting the Downtown Oshawa Urban Growth Centre.</p>	Please see response to Comment #2.
5.	Project Scope -Lakeshore East Corridor	<p>Section 3.2 (Vol. 1) – Base Case Scenario</p> <p>As noted briefly in the discussion above regarding Section 1.3 (Volume 1) of the Draft Report , the Base Case Scenario (i.e., the baseline condition prior to implementing electrification) for the TPAP is the year 2025. Any additional / planned RER expansion / infrastructure works (new tracks, grade separations, etc.) up to that time horizon is considered to be in place under the base-case scenario. This presumable would include the Oshawa-to-Bowmanville extension (to be completed by 2024), with the implication being that electrification infrastructure will essentially be “added to” these expansion works.</p> <p>In view of the foregoing, it would seem appropriate to include the addition / planned RER expansion / infrastructure works currently identified by Metrolinx to be in place by 2025 within the scope of the TPAP – including the Oshawa-to-Bowmanville extension. Currently, this project is not shown within the scope of the project; rather, the assessment appears limited to the current Lakeshore East Corridor between the Don Layover and the existing Oshawa GO Station location.</p>	Please see response to Comment #2.
6.	Project Scope -Lakeshore East Corridor	<p>Section 3.9.6.6 (Vol. 1) – Table 3-8</p> <p>If Go Rail were to extend to City of Oshawa or better still to further east, our City would request Metrolinx to consider enlarging the creek crossing structures within the Go Rail Corridor at the following locations if the existing creek crossing structures are found to be structurally deficient to support the Go Rail infrastructure or the structures have reached to the end of their life spans:</p> <ul style="list-style-type: none">• Oshawa Creek, Main Branch• Harmony Creek, Main Branch• Farewell Creek, Main Branch	<p>Safety is a priority at Metrolinx. Typically, our rail infrastructure is built with utmost consideration for safety and structural integrity.</p> <p>The creek crossing structures noted are out of scope of the Electrification TPAP and will be assessed as required, as part of the Bowmanville extension. Please see response to Comment #2.</p>

Table 1-31: City of Pickering Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF PICKERING			
1.	Infrastructure Siting	Page 61 of Environment Report 1, section 3.6.2.3 says that the OCS pole foundations can be accommodated within Metrolinx owned rail Right-of-Way, and no property impacts/conflicts are anticipated due to placement of OCS infrastructure along the corridors. Please confirm.	As outlined in Section 3.7.1 of EPR Vol 1: Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors. In cases where there are “pinch points” and the OCS infrastructure falls outside of MX owned ROW, an engineering solution will be implemented during detailed design to avoid property impacts. If either property impacts or the need for attachments are identified during detailed design, stakeholder/impacted property owner consultation will be undertaken and proceed with the acquisition/easement in accordance with Metrolinx’s approved property acquisition process.
2.	Infrastructure Siting	Page 105 of Environment Report 1, section 3.6.3.14.3 shows the Durham Switching Station (SWS) will be located at 1610 Bayly Street in Pickering, as shown in figure 3-52 of the Environment Report. The City of Pickering Official Plan Amendment 26 shows a future new “Type C Arterial” that would fly over the 401, running north-south through the hydro corridor for the future city center growth. The City wants to make sure that the proposed location of the SWS will not preclude the future arterial roadway. Page 117 of the report says that an easement is required to access the Durham switching station in Pickering. Please provide the location of the easement. Refer to the following link to the Pickering Official Plan Amendment 26 for your reference at https://www.pickering.ca/en/city-hall/resources/opa26_omb_approved.pdf	As noted in our response to the February 10, 2016 email received from the City of Pickering, a review of the Transportation System schedule of Amendment 26 was undertaken and a mapping overlay of the proposed Plummer Street extension and new “Type C Arterial” road was created to identify and review any potential conflicts with the proposed Pickering SWS location. This map was provided in our response to the February 10, 2016 email. Based on the updated version of the Durham SWS map that includes the updated configuration of the proposed SWS infrastructure, as shown in the draft EPR, the proposed Durham SWS location is not anticipated to preclude the implementation of the proposed Plummer Street extension and/or the new arterial road. The future extension of Plummer Street crosses the proposed access road to the SWS site. Further discussions are recommended between Metrolinx and the City of Pickering to better understand the timeline for the City’s future study/plans/implementation in order to establish a solution, if required for any possible conflicts. Should the extension of Plummer Street be constructed after the access road is in place (or before for that matter) the access could be shortened up and come off Plummer Street instead of Bayly Street with no issues. The easement for access would follow the access road identified in Figure 3-52 of EPR Volume 1.
3.	Bridge Modifications	Page 138 of Environment Report 1, section 3.9.5 says that no major modification is required to the bridges within Pickering. Table 3-3 shows that a Bridge Protection Barrier and a Fish Plate will be attached to the bottom of the Liverpool Road, Brock Road and Whites Road Bridges. Granite Court Bridge will also require wires to be attached, in addition to a Bridge Protection Barrier and a Fish Plate. The Pickering GO Station Pedestrian Bridge grating and the railing will need to be replaced with solid barrier 2.0 meters above standing surface to comply with electrification standards. The City of Pickering will like to be involved in the Bridge Protection Barrier and a Flash Plate design process.	Section 3.9.3 Bridge Protection Barriers provides a general description of the bridge barrier design and options. Refer to Figure 3-63 for a Typical Bridge Barrier Drawing. Refer to Figure 3-61 for a Typical Flash Plate Drawing. As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/options for enhancing the aesthetics of bridge barriers where feasible/required. Options for design treatments/options for enhancing the aesthetics of bridge barriers, will be discussed in consultation with relevant municipalities during detailed design.
4.	Project Construction	The City of Pickering will like to be involved in reviewing the Traffic Management Plans and public consultation process during construction within the City of Pickering.	Noted. Further discussions and coordination with local municipalities / road authorities will be undertaken during detail design with respect to development of Traffic Management Plans and construction timeline/communications. EPR Volumes 3 and 5 will be updated to reflect this commitment.
5.	Utilities	Page 487, under utilities, please see attached storm sewers/culverts existing location within the City of Pickering for your reference.	Thank you - some of the information provided by the City of Pickering is new and will be added to the utilities database and base maps. The EPR will be revised accordingly.
6.	Stormwater Management	The Metrolinx Electrification Transit Project Assessment Process – Draft Environmental Project Report was reviewed with respect to drainage related issues pertaining to the City of Pickering. Specifically the preliminary design details for the Power Switching Station proposed within Hydro One lands south of the 401 between Salk Road and Alliance Road in the City of Pickering (provided in the SWM Assessment report included as Appendix K of the Environmental Project Report) were reviewed.	It is acknowledged that the City has no concerns at this time, with respect to drainage within the City of Pickering. Responses to each sub-comment is provided below: <ol style="list-style-type: none">1. Discharge location will be reviewed and corrected.2. City of Pickering IDF Parameters will be reviewed to confirm applicability.3. Noted. A more detailed Stormwater Assessment will be completed during detail design.4. The City’s Stormwater Management Guidelines will be reviewed and included as a reference document within the report.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>The City has no concerns at this time, however, the following comments should be considered at the detailed design stage:</p> <ol style="list-style-type: none">1. The SWM Assessment Report indicates the site “ultimately discharges to a branch of West Duffins Creek between Krosno Boulevard and Reytan Boulevard” (page 129). This is not correct; the site discharges to Krosno Creek south of Bayly Street, just east of Krosno Boulevard.2. Two through 100 year pre- and post-development flows were determined based on MTO Rainfall IDF curves. It is recommended to use the City of Pickering’s IDF Parameters provided in the City of Pickering Stormwater Management Guidelines. A copy of the guidelines can be downloaded from the City’s website at https://www.pickering.ca/en/city-hall/resources/DC-StormwaterManagementGuidelines.pdf.3. The proposed Power Switching Station is located within the Krosno Creek Watershed, which discharges to Frenchman’s Bay. The quantity control (post to pre), in-stream erosion control, and an enhanced level of quality control for all development within the Krosno Creek Watershed are required. Please refer to the City of Pickering Stormwater Management Guidelines for further details and ensure the above criteria is addressed during the detailed design of the proposed Power Switching Station within the City of Pickering.4. The SWM Assessment Report indicates several municipal documents were reviewed, however, it appears the City of Pickering guidelines were not reviewed as they are not included in the “List of References”. Consideration should be given to the design requirements and objectives as defined in the City’s Stormwater Management Guidelines. Please refer to comment 2 above to obtain a copy of the guidelines.	<p>Comments noted and will be taken into consideration as part of the detailed design stage.</p>

Table 1-32: City of Toronto Draft EPR Comments and Responses

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF TORONTO				
ECS Services– Bridges and Structures				
1.	Bridge Modification	Volume 1, Section 3.9.3, page 136	<p>3.9.4.2 - 2nd paragraph - text implies that the only reason the bridge needs to be replaced is that it is not possible to add a protective barrier. This is misleading - the existing bridge is temporary (life span < 10 years) on poor condition abutments and MUST be replaced regardless of protective barrier.</p> <p>Final sentence - does not identify required vertical clearance, existing MCEA or impacts on surrounding community if bridge is raised above 7.1m. Feasibility has not been studied if vertical clearance is raised to 7.4m.</p>	<p>Dufferin St. Bridge</p> <p>Please note the text in Section 3.9.4.2 first paragraph reads “Also, the condition of the abutments is poor with concrete in poor condition throughout to the point that the City would not consider reusing/modifying the abutments; the existing bridge should be completely replaced, as is the City’s current expectation, irrespective of Metrolinx’s electrification project.” This statement was included to imply that the City is expecting the bridge to be replaced regardless of electrification. No changes to the EPR text are required.</p> <p>With respect to the Dufferin St. Bridge MCEA was completed in 2011, a discussion of the results of this study will be added to Section 3.9.4.2 of the EPR.</p> <p>The <i>City of Toronto Dufferin Street Bridge Class Environmental Assessment (July 14, 2011)</i> was reviewed relative to the requirements of the Electrification project. The preferred solution identified through the Class EA included replacing both Dufferin Street bridges over the Gardiner Expressway and rail corridor along the existing alignment. The proposed minimum vertical clearance of 7.01m for the Dufferin St. bridge over the rail corridor presented in the City’s Class EA does not require modification for Electrification.</p> <p>Specifically, the proposed design for the structure included spanning a 6-track section of the GO rail corridor. Therefore the only additional requirements for the new Dufferin St. bridge over the rail corridor to accommodate electrification are the inclusion a protective barrier and potentially flash plates depending on the final proposed structure type e.g., (steel, concrete).</p> <p>Based on the results of the structural assessment, current lack of available information on the existing bridge, and coordination with the City of Toronto, it was determined that it is unfeasible to retain/modify the existing bridge. Consequently, the bridge will require complete replacement. It was determined feasible to raise the roadway profile and replace the bridge. As such, the preliminary solution is to raise the roadway profile and replace the bridge toward attaining adequate vertical clearance and incorporate a protective barrier in order to meet the requirements of the electrification project. In order to accommodate the vertical clearance of 7.01m proposed in the City of Toronto’s preliminary 2011-2012 design, the tracks will be lowered approximately 200mm in order to attain an overall MVC of 7.2m as required by OCS at this site. This work will consequently require the replacement of the abutting bridge over the Gardiner Expressway just south of the rail corridor.</p> <p>With respect to the assessment of impacts to the surrounding community as stated in Volume 1, Section 3.6.4 page 135, it should be noted that the design solutions for each of the bridges with vertical clearance issues will be finalized as part of the subsequent detailed design phase of the project. As part of the TPAP, for each of these proposed solutions, it has been assumed that all impacts will be confined to Metrolinx’s rail ROW and that no footprint impacts on adjacent land uses will occur outside of the current Metrolinx rail ROW. Notwithstanding this, any potential environmental/land use/property</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				impacts that may occur outside of Metrolinx’s ROW as a result of the final design solution will need to be confirmed as part of the detailed design phase, which may entail additional EA studies/EA addendums that will need to be carried out.
2.	Bridge Modification	Volume 1, Section 3.9.3, page 136	3.9.4.3 - "punky" is a slang term and should be replaced with "poor". 2nd paragraph - text implies that the only reason the bridge needs to be replaced is that it is not possible to add a protective barrier. This is misleading - the existing bridge is temporary (life span < 10 years) on poor condition abutments and MUST be replaced regardless of protective barrier.	Punky will be replaced with ‘poor’ as applicable throughout the EPR. Please note the text in Section 3.9.4.3 first paragraph also states “. As expressed by the City of Toronto during a coordination meeting on August 5, 2016, the existing modular truss superstructure is considered “temporary” and is not capable of accommodating the required the protective barrier, or resisting the resulting additional induced forces. Also, the condition of the abutments is poor to the point that the City would not consider reusing/modifying the abutments; the existing bridge should be completely replaced, as is the City’s current expectation, irrespective of Metrolinx’s electrification project.” No changes to the EPR text are required.
3.	Bridge Modification	Volume 1, Section 3.9.3, page 137	3.9.4.4 - two options are identified as being "feasible". Why is 2nd option selected (raising Jameson Ave. without track lowering) as the preliminary solution? Has the impact on the local road network been studied. What vertical clearance is proposed?	Further feasibility study work was completed following circulation of the Draft EPR in January 2017. As a result, the revised proposed solution is to replace the bridge. The EPR has been updated to reflect the revised recommended solution for this bridge. This section of the EPR will be revised as follows (wrt Jameson bridge): The preliminary solution is to raise the roadway profile and replace the bridge toward attaining adequate vertical clearance and incorporate a protective barrier in order to meet the requirements of the electrification project. In order to reduce the magnitude of the bridge/roadway profile raise, the tracks will need to be lowered approximately 200mm in order to attain an overall MVC of 7.2m as required by OCS at this site.
4.	Terminology	Volume 1, Section 3.9.5, page 139	3.9.5.1 - "punky" is a slang term and should be replaced with "poor".	Punky will be replaced with ‘poor’ as applicable throughout the EPR.
5.	Bridge Modification	Volume 1, Section 3.9.6, Table 3-4	Table 3-4 LSW 2.38 Dufferin Street (#509): Other Issues/Potential Impacts is BLANK. Suggest the following potential impacts: <ul style="list-style-type: none">Relocation of Fibre Optic Communication Cables buried infront of north abutment.Impacts of grade raise on TTC Springhurst Loop to be identified.Property takings required as a result of grade raise to be identified.Impacts on Dufferin Street over the Gardiner to be identified.Impacts on CNE entrance gates and heritage arch to be identified as a result of grade raise.Impacts on buried Hydro-One cables south of Gardiner to be identified.Impacts on TTC plans for LRT turning movements at south end of Gardiner bridge to be identified as a result of grade raise.Impacts on retaining wall at southside of Gardiner to be identified as a result of grade raise.Impacts on CNE property and Medieval Times building/parking lot as a result of grade raise to be identified.Impacts on 300dia.watermain to be identified as a result of grade raise. Is an amendment to the existing Municipal Class EA contemplated? What is the required vertical clearance at this site?	With respect to a detailed assessment of impacts outside of the Metrolinx rail ROW, as stated in Volume 1, Section 3.6.4 page 135, “It should be noted that the design solutions for each of the bridges with vertical clearance issues will be finalized as part of the subsequent detailed design phase of the project. As part of the TPAP, for each of these proposed solutions, it has been assumed that all impacts will be confined to Metrolinx’s rail ROW and that no footprint impacts on adjacent land uses will occur outside of the current Metrolinx rail ROW. Notwithstanding this, any potential environmental/land use/property impacts that may occur outside of Metrolinx’s ROW as a result of the final design solution will need to be confirmed as part of the detailed design phase, which may entail additional EA studies/addendums that may be undertaken by Metrolinx and/or another municipality. This is further detailed in EPR Volume 5.” With respect to utility conflicts and potential impacts to utilities due to the Electrification project, this assessment was completed for utilities within the Electrification TPAP Study Area and is documented in Volume 3 of the EPR as well as Appendix I - Utilities Report. In the case of Dufferin St. bridge, this may be done as an EA amendment as a new EA/TPAP – this will be determined at a later date. Target MVC over the railroad tracks for the site/feasibility study is 7.2 m. However it is noted that the MVC of 7.2 will likely require attachment of OCS wires to the bridge. Also see response to comment #1.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p>The City of Toronto Dufferin Street Bridge Class Environmental Assessment (July 14, 2011) was reviewed relative to the requirements of the Electrification project. The preferred solution identified through the Class EA included replacing both Dufferin Street bridges over the Gardiner Expressway and rail corridor along the existing alignment. The proposed minimum vertical clearance of 7.01m for the Dufferin St. bridge over the rail corridor presented in the City’s Class EA does not require modification for Electrification. Specifically, the proposed design for the structure included spanning a 6-track section of the GO rail corridor. That said, from an electrification standpoint, Metrolinx is not planning to prepare an addendum to the City’s Municipal Class EA. Therefore the only additional requirements for the new Dufferin St. bridge over the rail corridor to accommodate electrification are the inclusion of a protective barrier and potentially flash plates depending on the final proposed structure type e.g., (steel, concrete).</p> <p>Future TPAP Addendum Work</p> <p>The detailed assessment of environmental impacts and public/stakeholder consultation related to modifications to Dufferin Ave. Bridge will be carried out as part of an Addendum to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design, if required.</p>
6.	Bridge Modification	Volume 1, Section 3.9.6, Table 3-4	<p>Talbe 3-4 LSW 2.69 Dunn Avenue (#511): Other Issues/Potential Impacts is BLANK. Suggest the following potential impacts:</p> <ul style="list-style-type: none">Relocation of Fibre Optic Communication Cables buried infront of north abutment. Property takings required as a result of grade raise to be identified (corner of Springhurst/Dunn).Impacts on Dunn Ave. road profile/properties to be identified.Impacts on Springhurst Ave. road profile/properties to to be identified. Impacts on Gardiner off ramp as a result of grade raise to be identified. Impacts on Lakeshore Blvd. West profile to be identified.Impacts on overhead Hydro cables to be identified. <p>What is the required vertical clearance at this site?</p>	<p>Please refer to response to item #5.</p> <p>Target MVC over the railroad tracks for the site/feasibility study is 7.2 m. However it is noted that the MVC of 7.2 will likely require attachment of OCS wires to the bridge. Also see response to comment #1.</p>
7.	Bridge Modification	Volume 1, Section 3.9.6, Table 3-4	<p>Table 3-4 LSW 2.85 Jameson Avenue (#533): Vertical Clearance Issue? States: Yes. Preferred solution to vert. clr. issue raise roadway profile and replace the bridge and lower tracks.</p> <p>Contradicts 3.9.4.4 which does NOT identify lowering the tracks. Which is it?</p> <p>Other Issues/Potential Impacts is BLANK. Suggest the following potential impacts:</p> <ul style="list-style-type: none">Relocation of Fibre Optic Communication Cables possibly buried in front of north abutment. Impacts on Jameson Ave. road profile to be identified.Impacts on Springhurst Ave. road profile to be identified. Impacts on Lakeshore Blvd. West road profile to to be identified.Impacts on Gardiner on ramp as a result of grade raise to be identified. Impacts on bridge over Gardiner to be identified. <p>What is the required vertical clearance at this site?</p>	<p>Please refer to responses to items #3 and #5.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
8.	Bridge Modification	Volume 1, Section 3.9.6, Table 3-4	<p>Talbe 3-4 LSW 3.02 Dowling Avenue (#507): Other Issues/Potential Impacts. Suggest the following potential impacts:</p> <ul style="list-style-type: none">Relocation of Fibre Optic Communication Cables buried infront of north abutment. Impacts on Dowling Ave. over Gardiner portion of the bridge.Alignment of new pedestrian bridge to be determined.Reuse of large pier between Gardiner and Rail Corridor not feasible due to condtion. <p>What is the required vertical clearance at this site?</p>	<p>The EPR will be updated to note that the target required MVC for this structure over the railroad tracks per the feasibility study is</p> <p>7.18 m. 7.18m was identified as the required vertical clearance for this particular bridge through the preliminary design work completed to date as this height will help reduce the extent of potential impacts to the surrounding road network.</p>
9.	EA	Volume 1, Section 3.15.8.5	<p>Bridge Replacements - "separate/future EA/TPAP studies to be undertaken by Metrolinx and/or the affected municipality". NOTE: The City expects MX to undertake any EA necessitated by the Electrification project.</p>	<p>As stated in Volume 1, Section 3.6.4 page 135, "It should be noted that the design solutions for each of the bridges with vertical clearance issues will be finalized as part of the subsequent detailed design phase of the project. As part of the TPAP, for each of these proposed solutions, it has been assumed that all impacts will be confined to Metrolinx's rail ROW and that no footprint impacts on adjacent land uses will occur outside of the current Metrolinx rail ROW. Notwithstanding this, any potential environmental/land use/property impacts that may occur outside of Metrolinx's ROW as a result of the final design solution (e.g., Jameson Bridge, Dunn Ave Bridge, Dowling Ped Bridge, Dufferin St. Bridge) will need to be confirmed as part of the detailed design phase, which may entail additional EA studies/EA addendums that will need to be carried out. The text in this section includes reference to involvement of the municipality in future Class EAs or TPAPs that may involve modifications/replacements of bridge structures and/or impacts to adjacent municipal roads in order to acknowledge that these EAs will need to be carried out in coordination with the affected municipality, particularly in cases where the affected infrastructure is not solely owned by MX.</p>
10.	Horizontal Barrier	Section 3.7.5 Horizontal Barriers Page 118	<p>This section is incomplete as noted by the writer, including assessment of areas requiring barriers not available and are outstanding; property acquisition and easement requirements are not available and outstanding. In addition, the physical properties, detailed configuration, materials and special features of the barrier are missing.</p> <p>No comment can be made as the information is missing and is available at the Final EPR as described by the writer.</p>	<p>As stated in 3.7.5 and 3.10 of Volume 1, more detailed information will be provided in the Final EPR on locations where parallel barriers may be needed. This analysis was in progress at the time of writing the Draft EPR.</p>
11.	Grounding and Bonding	Section 3.8.4 Grounding and Bonding Page 123	<p>Provide details of AREMA, Chapter 33, Section 7.5.1.1 Method B, as define in Section 3.8.4, in details in the report. Although the writer noted the importance to mitigate step and touch potentials where passengers, crew personnel and equipment can be injured, the details is left to be competed in the final design.</p> <p>Provide conceptual approach and confirm that the conceptual approach is feasible and practical.</p>	<p>As stated in Section 3.8.4, different combinations of grounding conductor and ground rod layouts and sizes will be used depending on the station. This approach is in accordance with AREMA, Chapter 33, Section 7.5.1.1 Method B and is feasible/practical.</p>
12.	Grounding and Bonding	Section 3.8.5 Grounding of Wayside Structures & Equipment Page 123	<p>Provide a sketch or photos showing examples of the list of wayside equipment for clarification purposes.</p>	<p>For clarity, this section is a summary of the wayside equipment that will require grounding and bonding, the addition of photos of this equipment will be out of context in this section. Notwithstanding this, example photos of OCS supports can be found in Section 3.6.2.7 and 3.6.2.9 and example image of a gantry can be found in Section 3.6.16.</p>
13.	Bridge Modification	Figure 3.57 to 3.63 Pages 125 to 132	<p>These drawings are not legible. City has requested for legible drawings sometime ago and awaiting.</p>	<p>The requested drawings were sent to the City of Toronto via email on January 23, 2017.</p>


Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx									
			Review of these drawing will follow after City recieves legible drawings.										
14.		Figure 3.64 Page 133	The Example Bridge Barrier is not acceptable from an aesthetic point of view. Prefer an example of the bridge barrier most likely to be used on this project.	<p>The example bridge barrier as depicted represents a typical installation to be used. Notwithstanding this, as outlined in Section</p> <p>“As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/option for enhancing the aesthetics of bridge barriers where feasible/required. It is anticipated that the basis of the protection barrier will be a post and panel (solid-faced) design with customizable panels toward suiting visual preferences (in consultation with the applicable bridge owners as appropriate), such as:</p> <ul style="list-style-type: none">• Multilane, restricted access highways and non-visually sensitive locations;• Visually sensitive locations;• Structures of heritage value or sensitivity. <p>Section 3.64 will be augmented to provide an additional example of a bridge barrier that may be considered/implemented in a visually sensitive location.</p> <p>It is also noted that Metrolinx will be discussing barrier branding with City staff prior to and at the proposed TAC meeting during the week of August 21st, 2017.</p>									
15.	Bridge Modification	Section 3.9.3.1 Bridge Barrier Design Options Page 133	<p>As part of the conceptual bridge barrier design, the design should take into account the requirement for AODA and City standard requirements for sidewalks. Some existing sidewalk width may not comply to the current City standard and AODA requirements. Addition of the bridge barriers must include any modification to upgrade the sidewalk standard.</p> <p>If the addition of conceptual bridge barrier and upgrading of sidewalks becomes a bridge widening project, all bridge widening procedures and approvals will follow.</p>	The addition of a protective barrier is not expected to create a non-compliance with AODA and should not trigger the Electrification project’s need to address existing non-compliance issues with AODA. The final design will adhere to applicable standards where required.									
16.	Bridge Modification	Section 3.9.4 Modifications to Achieve MVC Page 133	<p>Clearly define AMVC, is AMVC measured from top of rail to underside of deck.</p> <p>The bridges identified that do not meet the AMVC requirements, clearly note the extent or magnitude of modification required. This dimension is crucial in determining whether the bridge need to be replaced or can be modified to suit.</p>	<p>As stated in Section 3.9.4, “As part of the conceptual design prepared during the TPAP, a preliminary investigation was undertaken to examine possible design solutions for overhead bridges that do not meet the required minimum vertical clearance (MVC) needed to accommodate electrification of the Metrolinx rail corridors.”</p> <p>To clarify: AMVC is measured from the top of the rail to the lowest point of the bridge overhead (typically, the bottom of beam). Sections of the EPR will be updated to refer to required MVCs as follows:</p> <p>The required Absolute Minimum Vertical Clearances (AMVCs) for overhead bridges are defined as follows:</p> <table><tr><td></td><td><u>Plate F</u></td><td><u>Plate H</u></td></tr><tr><td>Steel bridges:</td><td>5946 mm</td><td>6937 mm</td></tr><tr><td>Concrete bridges:</td><td>5959 mm</td><td>6950 mm</td></tr></table> <p>These AMVCs were used as an initial “trigger” to determine the need to address an inadequate vertical clearance in terms of raising/replacing the bridge or lowering the track, where an OCS modification/solution cannot otherwise be provided.</p> <p>Subsequent investigations were performed to define the required MVCs (i.e., RMVCs) based on site-specific OCS requirements, which can be greater than AMVCs in some cases. Opportunities to implement improvements to the quality of maintenance practices in</p>		<u>Plate F</u>	<u>Plate H</u>	Steel bridges:	5946 mm	6937 mm	Concrete bridges:	5959 mm	6950 mm
	<u>Plate F</u>	<u>Plate H</u>											
Steel bridges:	5946 mm	6937 mm											
Concrete bridges:	5959 mm	6950 mm											

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				order to reduce track maintenance allowance (TMA) (i.e., the tolerances that are allowed before the track needs to be repaired), as well as freight restrictions in some cases, were also considered as solutions for minimizing the number of bridges requiring more substantive forms of modification in order to achieve the required minimum vertical clearance. The results of this assessment for each bridge are detailed in Tables 3-3 to 3-8 in Volume 1 of the EPR as well as throughout the subsections in 3.9.4 for each particular bridge with an MVC issue.
17.	Terminology	Section 3.9.4.1 to 3.9.5.10 Page 135 to 141	Add City's Bridge # for all bridges within the City of Toronto, if applicable.	Since the Electrification project involves several municipalities including City of Toronto and others, and since bridge numbers are only applicable to the C of T in particular, we propose leaving the EPR as is in order to avoid inconsistency in the way bridges are described amongst all affected municipalities.
18.	Cultural Heritage	Section 3.9.4.1 to 3.9.5.10 Page 135 to 141	Include in the assessment description whether the bridge is heritage, historic or visually sensitive, in particular those bridges that requires replacement.	The intent of sections Section 3.9.4.1 to 3.9.5.10 is to provide a technical overview of the 12 OH structures that did not meet the MVC and the proposed engineering solution to achieve the MVC. Details related to cultural heritage and visual aspects and assessment of impacts are included in EPR Volumes 2 and 3 as well as Appendices C and H respectively.
19.	Bridge Modification	Section 3.9.5 Modification of Pedestrian Bridges Page 138	Identify those bridges that requires replacement, bridges requires modification and bridges requires lowering of track. Without the configuration of the bridge barriers, how is the conceptual engineering work be feasible in analyzing the bridge capacity?	<p>The worst case scenarios for bridge barriers were used to carry out the conceptual evaluation of the bridges. These result showed that the bridge barriers decreased the bridge capacity by less than 3%. These results were shared with the City of Toronto.</p> <p>Tables 3-3 to 3-8 in Volume 1 of the EPR identify which pedestrian bridges require replacement, modification, etc.</p> <p>The structural assessment of the OH Bridges for the addition of a protective barrier is based on available plans and the general requirements of the barrier (i.e., solid-faced, 2 m above the walking/riding surface, and extending 3 m beyond the OCS wires and 5 m beyond the centerline of the track), and with a conservative estimate of its weight.</p>
20.	Bridge Modification	Section 3.9.5.2 Sunnyside Pedestrian Bridge Page 139	With all the unknowns noted in the structural assessment, the statement of "this bridge is to retain/modify it in order to be code compliant" is only an assumption. This bridge should be assessed in both options, as modified and replacement.	<p>The purpose of the structural assessment was to determine if the bridge would require replacement or if it could be retained/modified to accommodate the addition of a protective barrier.</p> <p>In the case of Sunnyside Ped Bridge, it was determined that the bridge does not require replacement and can be retained/modified to accommodate a protective barrier.</p>
21.	Consultation	Section 3.9.5.3 and 3.9.5.4	Both bridges are located in the City of Burlington. City of Toronto's comment may be considered. Consult local authorities for comment.	We confirm that the City of Burlington was consulted as part of the TPAP.
22.	Bridge Modification	Section 3.9.5.5 Innis Ave Pedestrian Bridge Page 140	With all the unknowns noted in the structural assessment, the statement of "this bridge is to retain/modify it in order to be code compliant" is only an assumption. This bridge should be assessed in both options, as modified and replacement.	<p>The purpose of the structural assessment was to determine if the bridge would require replacement or if it could be retained/modified to accommodate the addition of a protective barrier.</p> <p>In the case of Innes Ave Ped Bridge, it was determined that the bridge does not require replacement and can be retained/modified to accommodate a protective barrier.</p>
23.	Consultation	Section 3.9.5.7 and 3.9.5.8	Both bridges are located in Pickering or Whitby. City of Toronto's comment may be considered. Consult local authorities for comment.	We confirm that City of Pickering and Town of Whitby were consulted as part of the TPAP.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
24.	Bridge Modification	Section 3.9.5.9 Woodrow Avenue Pedestrian Bridge Page 141	With all the unknowns noted in the structural assessment, the statement of "this bridge is to retain/modify it in order to be code compliant" is only an assumption. This bridge should be assessed in both options, as modified and replacement.	The purpose of the structural assessment was to determine if the bridge would require replacement or if it could be retained/modified to accommodate the addition of a protective barrier. In the case of Woodrow Ave Ped Bridge, it was determined that the bridge does not require replacement and can be retained/modified to accommodate a protective barrier.
25.	Consultation	Table 3 Summary of Bridge Modifications	Include City's Bridge # for all bridges within the City of Toronto, if applicable.	See response to item #17.
26.	Heritage	Table 3 Summary of Bridge Modifications	Clearly identify if the bridge is historical or heritage under "Other Issues/Potential Impacts".	The intent of Tables 3-3 to 3-8 is not to provide an assessment of the heritage or visual impacts associated with bridge modifications. The column entitled "Other Issues/Potential Impacts" will be revised to a more appropriate heading so as not to confuse the purpose of these tables. These particular details and assessment of impacts are documented in EPR Volume 3.
27.	Bridge Modification	Table 3 Summary of Bridge Modifications	Clearly identify if the bridge is to be replaced including the reasoning to backup the proposed work under "Other Issues/Potential Impacts".	Tables 3-3 to 3-8 already identify which bridges are proposed to be replaced. The column entitled "Other Issues/Potential Impacts" will be revised to a more appropriate heading so as not to confuse the purpose of these tables.
28.	Bridge Modification	Table 3 Summary of Bridge Modifications	Clearly identify if the bridge is to be widened including the reasoning to backup the proposed work under "Other Issues/Potential Impacts".	See response to comment #27.
29.	Bridge Modification	Table 3 Summary of Bridge Modifications	Explain the meaning of "Bridge Protection Barrier to be Modified"? Are all bridge barriers new and to be added?	The column heading in these tables relates to the need to add a protective barrier to an existing bridge or if an existing protective barrier needs to be modified as per the "yes/no" entries in each cell within the column.
30.	Bridge Modification	Table 3 Summary of Bridge Modifications	The column showing "Vertical Clearance Issues?" for "Bridge", clearly include the existing clearance measured from top of rail to underside of the bridge, as surveyed by Metrolinx.	Adding the measurements for existing clearances to these tables will not provide added value since the column entitled "Vertical Clearance Issue?" already indicates whether or not each structure meets the minimal vertical clearance (MVC) or not. A footnote will be added to this indicate what the MVC is. Also see response to comment #16.
31.	Bridge Modification	Table 3 Summary of Bridge Modifications	The column showing "Vertical Clearance Issues?" for "Bridge", clearly include the existing horizontal clearances to the piers or abutments of the bridge, as surveyed by Metrolinx.	The tables are not intended to include horizontal clearances since the horizontal clearance required for electrification is less than the Association of American Railroads and Transport Canada standard already required for the vehicles.
32.	Design	Section 3.10 Horizontal Offset Barrier Page 182	No comment can be made as the information is missing and is available at the Final EPR as described by the writer.	See response to comment # 10.
33.	Design	Section 3.10.1 Depressed corridors - 3m Horizontal Page 182	Define where the 2m in height measured from? Is it from top of sidewalk or top of parapet wall? If measurement is from top of sidewalk, will the barrier system be design for vehicular impact load?	As the drawing indicates, 2 m is defined from the top of the standing surface. The barrier is designed to meet structural requirements of fences and railings, it is not designed for vehicular impact protection.
34.	Design	Figure 3-65 typical Horizontal Barrier Drawing	These drawing is not legible. City has requested for legible drawings sometime ago and are awaiting.	See response to Comment #13.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Page 183	Review of these drawing will follow after City receives legible drawings.	
35.	Bridge Modification	Figure 3.15.8.2 Overpass Structures - Roadways Page 192	Clarify the description of "outside face of the structure", where are the locations and the bridge elements to be attached to? Will the installation of this work affects local traffic? State the impact of this work.	Expected installation methods of protective barriers and OCS attachments are outlined in Section 3.15.8.1. Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.
36.	Design	Figure 3.15.8.3 Rail Overpass - Over Watercourses Page 192	Indicate the minimum free board required for using temporary cantilever structures as scaffolding? Brief describe if TRCA and other agencies will be required for approval?	The minimum free board will be determined by the contractor. There are no anticipated specific approvals identified at this time with respect to these works over watercourses. Notwithstanding this, further reviews will be completed as part of detailed design and any required permits or approvals will be obtained where applicable.
37.	Design	Figure 3.15.8.4 Pedestrian bridge Replacement Page 192	What is "beyond fouling"?	Fouling a track means the placement of an individual or object in such proximity to a track that the individual or object could be struck by a moving train or other on-track equipment, or in any case is within four feet of the nearest rail.
38.	Design	Figure 3.15.8.4 Pedestian bridge Replacement Page 192	The first sentence is not clear, how is the substructures, piers and abutments being constructed?	Construction of the piers and abutments are expected to be performed in a manner typical of such elements, such as excavation/temporary shoring, forming, reinforcing, and placing of concrete, etc. for the foundations, and subsequently constructing the stems, etc. in a similar manner.
39.	Design	Figure 3.15.8.4 Pedestrian bridge Replacement Page 192	In most cases, pedestrian walkway is to be maintained during construction and cannot be closed. Briefly describe how the pedestrian walkway are to be maintained during construction?	Overall, construction is temporary and largely unavoidable, as the access needed by the contractor may necessitate restricting pedestrian traffic during some/most operations. Further design work will be completed during detail design and efforts will be made to minimize disruption to pedestrians to the greatest extent possible.
40.	Design	Figure 3.15.8.5 Bridge Replacements Page 192	No comment can be made as the information is missing and will be assessed as part of separate/future/TPAP studies. This is unacceptable from City of Toronto point of view.	See response to item 5.
41.	Design	Figure 3.15.8.6 Track Lowering Page 192	What is the requirement for track lowering in horizontal to vertical scale for this project? Clearly define the requirement in this section.	Section 3.15.8.6 identifies the various methods to lower the tracks. The extent of the work (in horizontal and vertical scale) is dependent on the difference between the existing and required minimum vertical clearance (MVC) at each site. The required MVC is defined by OCS clearance requirements which, in order to minimize impacts on existing OH bridges, can vary.
42.	Design	Figure 3.15.8.2 Track Lowering - Excavation Page 192	What is the maximum (reasonable) excavation? Instead of saying as much as 3 feet or below. What about the impact of lowering the tracks adjacent to existing piers and abutments? Briefly descibe how to lower the tracks at this locations.	Section 3.15.8.6 identifies the various methods to lower the tracks, and general expectation of limits of each. The impact of the track lowering on existing bridge piers and abutments is dependent on the type of foundation and extent of the lowering, and the relative distance from the tracks to the pier or abutment. The effects of the track lowering on the piers or abutments are assessed to determine if they generally can be mitigated by modifying the substructure by such things as underpinning, or modifying the stem or footing to maintain its structural capacity, stability and/or frost protection/embedment

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				depth. Once the impacts to the abutments or piers are mitigated, the track will be lowered usually by one of the 3 methods described in this section.
43.	Design/Mitigati on	General	<p>Please provide Design and Construction Protocol for the protection of City of Toronto Infrastructure</p> <p>The purpose of the Design and Construction Protocol (DCP) is to provide a summary of the works that are proposed by proponents of the Third Party projects and to provide detailed descriptions on how the proposed woks will impact the City of Toronto's infrastructure such as the sewers, watermains and structures.</p>	<p>A detailed assessment of potential impacts to Utilities and utility conflicts was completed as part of the TPAP – the results and recommendations of this study are documented in Appendix I - Utilities Report and EPR Volume 3. In addition, please note that additional meetings and discussions with utility owners will be held to further discuss the proposed mitigation measures to be implemented to resolve conflicts as part of the next phase of design.</p> <p>Regarding provision of a DCP, a summary of the proposed works and potential impacts to City of Toronto utilities has been documented in detail in the Utilities Impact Assessment Report contained in Appendix I and throughout EPR Volume 3. The information contained in Appendix I and EPR Vol 3 represents a summary of the Utilities work undertaken at the TPAP stage. Similarly, potential impacts/modifications to structures/bridges are detailed in Section 3.9 of EPR Vol 3.</p> <p>We could not locate a reference to a requirement for a DCP in the CoT's design or construction manual. Notwithstanding this, if the City requires such a protocol to go forward with protection of their infrastructure, that will be further discussed and captured during detailed design and will be carried out by the Contractor as required.</p>
44.	Identification of impacts	General	<p>Please provide Description of the Project</p> <ul style="list-style-type: none">• Inventory of all City of Toronto infrastructure and utilities in and around the project area.• Identification of all existing infrastructure and utilities which will be impacted by the proposed works.• Description on location of all infrastructure and utilities, with plans referencing the same.• Construction timing of the proposed works and identify if works are to be completed as an advance contract.• Summary of the proposed works to address all impacted infrastructure and the methodology to resolve the conflicts. Identify whether the proposed new infrastructure is permanent or temporary. Provide further clarification if any proposed works are temporary.• Explanation on impact to the area residents and businesses as a result of the proposed works which may include the decommissioning of the existing sewer and water systems and the relocation and installation of the new temporary and permanent infrastructures. Provide a summary description of the construction methodology and sequences in relocating and constructing the proposed new infrastructure to ensure that continual operation of the City's sewer and watermain systems is maintained. Temporary disruption to the area residents and business must be kept to a minimum. <p>Example of the information needed to be determined should include:</p> <ul style="list-style-type: none">- identifying the water valves to be shut-off and the area being affected by the shut-off,- identifying the construction sequences to relocate and/or re-construct the sewer and water infrastructure,- identifying mitigation measures to maintain continuity and operation of the sewer and water systems during the entire construction period of the project,	<p>A detailed assessment of potential impacts to utilities and utility conflicts was completed as part of the TPAP – the results and recommendations of this study are documented in detail in the Utilities Impact Assessment Report Appendix I and EPR Volume 3.</p> <p>An inventory of all City of Toronto infrastructure (aside from utilities) will be compiled and assessed as part of detailed design as required.</p> <p>Metrolinx is currently identifying all utilities owner by Third Parties that are located within or near the rail corridors to be electrified. This process has been delayed for the City of Toronto due to ongoing negotiations for a Confidentiality Agreement for the City to provide maps of their infrastructure. Once these maps are received, the infrastructure will be base mapped and logged in the utilities database. Potential conflicts between the City's infrastructure and the future Electrification infrastructure will be identified by the Third Party Coordination team.</p> <p>Potential conflicts will be reviewed for complexity and some conflicts may be addressed as part of Utility Early Works in advance of the Contractor coming on board. Preparatory utility activities for conflicts are currently ongoing to determine which conflicts may be advanced to Early Works construction.</p> <p>As stated in the Utilities Impact Assessment Report (Appendix I), the majority of conflicts will be mitigated by the removal, relocation, reconfiguration or burial of overhead utilities. In some cases, primarily relating to those utilities attached to bridges, further study of the potential conflict during the design phase will be required to determine the extent of actual conflict.</p> <p>In some cases an engineering solution for the Electrification infrastructure may be possible to avoid conflicts with Third Party utilities. We anticipate that much of the City of Toronto's infrastructure is buried crossings, which will likely be avoided due to these engineering</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">- other requirements as needed that are specific to the project.- Requirement of any easements (utility, traffic easements, etc.)- Requirement of any property acquisition and show on a plan- Identification of any roadway modification as a result of proposed works (both temporary and permanent).- Identification all the permits and the approvals required prior to and during construction (MOE, Road Cut, Municipal Consent, etc.).	solutions. However, this cannot be confirmed until the full extent of the City's infrastructure is known.
45.		General	<p>Infrastructure Matrix Table</p> <p>Provide a matrix table to include summary of the information identified in the "Description of the Project" above and prepare the same in the sample document</p> 	<p>See responses to comment #43 and #44.</p> <p>If required by C of T, the Infrastructure Matrix Table will be provided during the next stage of design once further details regarding utility conflicts, proposed mitigation, etc. are known.</p> <p>Note that the 2016 Metrolinx Station Access Plan commitment to adherence to provincial and local policy and statutory regulations applies to GO station buildings only.</p>
City Planning				
45b	Commitments	Vol. 5 Sec. 1.3.3	Other Metrolinx policy documents, such as the GO Rail Station Access Plan (Dec. 2016) commit Metrolinx to "adhere to provincial and local policy and statutory regulations" (Policy 3.3.1 c) i. The electrification EPR only commits to "submit applications for review and information." Bullet 3 only allows a municipality to provide comment. This is a much weaker approach and is inconsistent with the earlier (but very recent) position in the Access Plan.	See response to comment #45
46.	Bridge modification	Vol. 1 page xxxvii	The ERP still assumes only bridge based barriers on pedestrian bridges and refuses to allow for OCS protective structures. I remain of the opinion that providing protection for the OCS does not require transforming a pedestrian bridge into a claustrophobic tunnel-like environment. If all you need to do is protect the wires, then do it with canopies over the wires. Don't ruin the whole bridge. It would probably be a whole lot cheaper than replacing a bridge to accommodate the proposed walls.	<p>Public and operational safety is of the utmost importance to Metrolinx. It is a requirement of electrification to protect both train operations and the public by providing adequate separation between accessible surfaces and energized parts. The purpose of a bridge protection barrier is to protect pedestrians/infrastructure users within the public right-of-way on bridges from direct contact with adjacent live parts of the Overhead Contact System (OCS) for voltages up to 25 kV to ground. These barriers also protect against damage to the OCS infrastructure by providing an obstacle for any debris that may be thrown onto the railway from overhead.</p> <p>Metrolinx is developing a Standard for building over the GO Corridor.</p> <p>This standard is based on codes and industry standards for building over electrified railways. These codes require that any accessible surface must be guarded to "remove the liability of dangerous contact or approach by persons or objects" (CSA 22.1-15). The industry standard in North America is a 2.0 m high vertical, solid barrier (no gaps or perforations) to mitigate the risk of a person from intentionally or unintentionally coming into contact with the electrified system.</p> <p>Having said this, Metrolinx understands the importance of maintaining the visual landscape in the City of Toronto. As such, vertical bridge barriers were assessed as part of the Visual Impact Assessment Report prepared as part of the GO Rail Network Electrification TPAP. Metrolinx is working to mitigate visual impact of the barriers through design working groups in consultation with affected municipalities.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
47.	Formatting/Figu re	Vol. 1 Sec. 2.3.1 & Fig. 2-2	The section and the figure do not correspond. The figure shows what appears to be a 2.5 km buffer on each side of the rail corridor, but the section does not describe this or identify where this buffer comes from	To clarify, Figure 2-2 depicts the general study area as described and referenced in Section 2.3. Figure 2-2- is not intended to depict the specific buffer areas applied by the Air Quality, Visual or Noise. The text in Section 2.3.1 will be revised to avoid this confusion.
48.	Formatting	Vol 1 Fig. 3-1	Land Use/Socio-Economic description is cut off at the bottom. The development applications row should include active applications on lands adjacent to the site, and should include zoning, subdivision, and site plan applications	We assume this comment relates to Table 3-1 not Figure 3-1. Zoning, subdivision and site plan applications were requested from every municipality, however not every municipality provided this information. In order to prepare a consistent methodology for reviewing the Study Area these features were not included in this description, however they were considered where they were available. Table 3-1 has been updated to show the entire description.
49.	Design	Vol. 1 Fig. 3-8	Can the limits of the proposed Tap Point on the east side of the rail corridor be pushed northward to move it further away from the existing homes on the south side of theHydro corridor?	The Scarborough Tap mapping as shown on Figure 3-8 in Vol 1 depicts a larger conservative area (pink hatching) within which the tap infrastructure will be located. A more conservative approach to impact assessment was taken at the EA stage due to the conceptual nature of the design. The actual footprint of the Tap infrastructure will be much smaller than the pink hatched area shown on Figure 3-8. Notwithstanding this, a commitment will be added to EPR Volume 5 to indicate that as part of detailed design, the final configuration of the tap infrastructure will be situated as far away as possible from the residential area to the south (east of the Stouffville rail corridor).
50.	Formatting	Vol. 1 Fig. 3-10	This figure is faint and hard to read. Please enlarge the diagram in the frame and consider using larger font size for labels and heavier line weight for the drawing. And what is a pantograph? Same comments apply for Figures 3-11 & 3-12.	Figures will be reviewed and updated where possible. A pantograph is a device on the top of an electric train that slides along the contact wire to transmit electric power from the catenary to the train.
51.	Formatting/Figure	Vol. 1 Fig. 3-13	What is this figure meant to convey? Where is it referenced in the text?	Figure 3-13 is referenced in Section 3.6.2.2. This figure is a standard drawing showing clearances required for Double Stacked Freight.
52.	Design	Vol. 1 Sec. 3.9.2 & Fig. 3-61, 3-62	What is the material of the flash plates? Do they extend beyond the bridge structure? Can they? Can they act as a canopy over the OCS wires? Figure 3-61 is very difficult to understand. Only after viewing the picture does it make any sense.	Flash plates are metallic plates that are grounded. Section 3.9.2 of EPR Vol 1 describes the purpose and function of a flash plate and Figure 3.61 and Figure 3.62 depict a typical flash plate installation. They cannot operate as a canopy over the wires.
53.	Design	Vol. 1 Sec. 3.9.3	Whenever bridge barriers are described, wording is used to make it seem as if the pedestrians/travelers need protection from the OCS wires, when in fact it is the wires that need protection from people. The wires are passive (they don't move or act). People are the dynamic feature. It is disingenuous to characterize it the other way around, and has clearly influenced (limited) the range of options considered to mitigate this issue. This is a fundamental flaw of the approach to separation of people and OCS wires.	Our obligation is to endeavor to protect people from injury.
54.	Design	Vol. 1 Sec. 3.9.3.1	Where impacted municipalities have their own Design Review Panels, these already existing resources should also be engaged to review bridge barrier design treatments/options.	Metrolinx is working to mitigate visual impact of the barriers through design working groups in consultation with affected municipalities.
55.	Design	Vol. 1 Sec. 3.9.5	This section assumes the only option to protect the OCS wires is the addition of walls on both sides of pedestrian bridges when the goal is to protect the wires from people, not to protect people from the wires. Options to add canopies over the wires rather than walls on the bridges should also be explored.	Please refer to response #46.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
56.	Design	Vol. 1 Sec. 3.9.5.6	<p>If the bridge is proposed to be replaced, the existing structure will need to remain open during construction as it is a busy crossing and the nearest other options are hundreds of metres away (and don't have safe cycling routes).</p> <p>This bridge is part of the Pan Am Path cycle route. The north facing view is of particular importance and must be preserved.</p>	<p>It should be noted that further work was completed following circulation of the Draft EPR in January 2017. As a result, the recommendation for the Mooregate/Tara Ped Bridge was revised from replace the structure to retain/modify to accommodate the addition of a protective barrier. The EPR and specifically tables 3-3 to 3-8 have been updated to reflect the revised recommendations for each structure.</p> <p>Construction is temporary and largely unavoidable. Access needed by the contractor may necessitate restricting pedestrian traffic during some/most operations. During detail design, efforts will be made to minimize disruption to pedestrians where possible.</p> <p>Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.</p> <p>Regarding the north facing view, comment is noted – the Visual Impact Assessment Report (Appendix H) and EPR will be updated to acknowledge this.</p>
57.	Visual	Vol. 1 Sec. 3.9.5.10	<p>The west facing view from the Pape Avenue pedestrian bridge is of particular importance. Any barrier structure will need to preserve this view by being transparent.</p>	<p>As stated in Section 3.9.3.1 of EPR Volume 1:</p> <p>As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/option for enhancing the aesthetics of bridge barriers where feasible/required. It is anticipated that the basis of the protection barrier will be a post and panel (solid-faced) design with customizable panels toward suiting visual preferences (in consultation with the applicable bridge owners as appropriate), such as:</p> <ul style="list-style-type: none">• Multilane, restricted access highways and non-visually sensitive locations;• Visually sensitive locations; Structures of heritage value or sensitivity. <p>It should be noted that Volume 1 is not intended to include the visual impact assessment results. The assessment of visual effects and mitigation measures is included in EPR Volume 3 and Appendix H. Notwithstanding this, the Visual Impact Assessment Report contained in Appendix H will be updated to document the importance of the west facing view from Pape Avenue Pedestrian bridge.</p>
58.	Bridge Modifications	Vol. 1 Sec. 3.15.8.4	<p>Closures of some pedestrian crossings of the rail corridor should be avoided or minimized in duration. This may include building replacement bridges remotely or in space adjacent to the existing bridge or the rail corridor and craning into place.</p>	<p>Construction is temporary and largely unavoidable. Access needed by the contractor may necessitate restricting pedestrian traffic during some/most operations. During detail design, efforts will be made to minimize disruption to pedestrians where possible.</p> <p>Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate. Temporary structures are not anticipated to be built as part of these construction activities.</p>
59.	Natural Environment	Vol. 2 page xciv	<p>The Natural Environment section here is related to the Stouffville corridor baseline assessment but includes a statement referring to SARs in the Lakeshore East Corridor. Is the statement misplaced or are we talking about SARs in the Stouffville corridor?</p>	<p>This reference should say Stouffville Corridor and will be corrected in the EPR.</p>
60.	Land Use	Vol. 2 page xcvi	<p>Under Land Use, the list of plans should include the Steeles-Redlea Regeneration Area Study</p>	<p>This Land Use and Socio-Economic Report (Appendix E) has been updated to include reference to this study</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
61.	Land Use	Vol. 2 page cvi	Land Use/Socio-Economic description for the LSE line omits the Kingston Road Avenue Study, which includes the Guildwood GO station lands. The study area is defined by LSE line.	This Land Use and Socio-Economic Report (Appendix E) has been updated to include reference to this study
62.	Visual	Vol. 2 Sec. 1.5.8	View-sheds from bridges accessible to pedestrians do not need to be impacted if canopies over OCS wires are utilized rather than walls on the bridges. The section says the barriers "shall extend at least three metres beyond any electrified wire(s) running under the bridge." A canopy extending 3 metres outward from the bridge would seem to accomplish this quite handily. Alternatives to walls or transparent barriers will need to be explored at some bridges.	Refer to response to item #46.
63.	Natural Environment	Vol. 2 Sec. 6.1.5.1	Vegetation communities listed here include Agriculture, but I doubt very much that such activity is actually taking place within this segment of the Stouffville corridor.	Noted. MH will review the ELC communities located within Segment SV-2 and revise if necessary.
64.	Land Use	Vol. 2 Sec. 6.5.5.2	The Steeles-Redlea Regeneration Area Study should be referenced here. An active application is in process for the large parcel of undeveloped land to the northeast of McNicoll Avenue and the rail corridor (proposing a large retail/restaurant development).	This Land Use and Socio-Economic Report (Appendix E) has been updated to include reference to this study.
65.	Land Use	Vol. 2 Sec. 6.8.4	On page 370, paragraph below the picture - "North of <i>Lawrence</i> Avenue..." Also it should be noted that the vacant parcel on the south side of Ellesmere Road west of the rail corridor is approved with a residential townhouse development.	The reference to "North of Eglinton Avenue East" underneath figure 6-24 has been updated. Additionally a reference to the approved townhouse development at 1001 Ellesmere Road has been added
66.	Bridge Modifications	Vol. 2 Sec.6.8.4	Page 372 - the passage discussing the pedestrian bridge at Mooregate/Tara correctly identifies that protective barriers <i>may</i> be erected on the bridge. It is assumed that they also <i>may not</i> be installed on the bridge.	Protective barriers will be required on the Mooregate/Tara pedestrian bridge.
66b	Design	Vol. 2 Sec. 6.8.5	How will safety be handled through at-grade rail crossings? What sort of barrier will be proposed here?	At grade crossings are already gated. No additional barriers are required/proposed at these crossings as a result of electrification.
67.	Land Use	Vol. 2 Sec. 7.5.6.2	There are several active development applications for lands adjacent and to the south of the rail corridor and east of Victoria Park, including a large footprint commercial building at Victoria Park, an expansion to the FreshCo at the Victoria Crossing shopping plaza, multi-family residential development (low and high rise) on the former quarry lands, a stacked townhouse development at 2533-2541 Gerrard Street East, and a stacked townhouse development at 168- 184 Clonmore Avenue.	As outlined in EPR Volume 1, Section 3.7.1, "Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors." Therefore, development applications for lands adjacent were not reviewed in detail as part of the Land Use Impact Assessment. Notwithstanding this, as the land use assessment did consider adjacent land uses, the noted development applications will be referenced within the appropriate sections of the EPR and Land Use reports (Appendix E).
68.	Land Use	Vol. 2 Sec. 7.5.7.2	The city is entertaining development applications for mid-rise and low rise developments adjacent to the rail corridor at 253 Markham Road (including 12, 20 & 30 Dunelm St.) and 90 Dale Avenue	See response to item # 67
69.	Visual	Vol. 2 Sec. 7.8.5	The view of downtown Toronto from the Pape Street pedestrian bridge is very high quality and should be retained. Safety barriers should take the form of canopies over the OCS wires rather than walls on the bridge. This section should be amended to include options other than a walled pedestrian bridge, or at least recognize the importance of the view and commit to retaining it.	See response to item # 57 Notwithstanding this, Vol 2 Section 7.8.5 will be reviewed and updated as appropriate to document the existing visual conditions associated with the Pape St Ped Bridge.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
70.	Visual	Vol. 2 Sec. 7.8.6	Views will be impacted along Kimridge Avenue where the rail corridor expansion is proposed to remove all vegetation between the road and the rail corridor directly adjacent to the street. A wall is proposed to enable the widening of the embankment, presumably with the electrification equipment installed up on top of this fully exposed and raised rail corridor.	<p>The final electrification design will need to be coordinated with planned LSE corridor expansion retaining wall, added track and electrification infrastructure.</p> <p>The design of significant public facing retaining walls and corridor facing retaining walls that may be notable from a public realm perspective will be reviewed by the Metrolinx Design Review Panel (MDRP). Metrolinx is aware that the installation of OCS infrastructure will affect the view shed along the rail corridor, particularly in areas of vegetation/tree clearing. Areas of ‘high’ visual impact as identified in the EPR will be reviewed and specific design measures will be incorporated to mitigate visual impacts during detailed design.</p> <p>Notwithstanding this, Vol 2 Section 7.8.6 will be reviewed and updated as appropriate to document the existing visual conditions associated with the Pape St Ped Bridge</p>
71.	Design/Visual	Vol. 2 Sec. 7.8.8	This section notes at grade rail crossings of Galloway Road, Poplar Road and Morningside Avenue. It should probably also acknowledge that grade separations are planned at Galloway Road and Morningside Avenue as part of the LSE Segment 3 corridor expansion EA, and that Poplar Road is being evaluated for possible closure at the rail corridor. If a closure is recommended, the City will want to maintain a pedestrian crossing, which will take the form of a bridge or tunnel.	<p>As part of the Metrolinx LSE Segment 3 Corridor Expansion EA, grade separations are approved for Galloway Road, Morningside Road, and Scarborough Golf Club Road.</p> <p>The Lakeshore East Segment 3 Corridor EA was also approved for the closure of Poplar Road, pending City decision.</p> <p>Discussions with the City are ongoing as part of the LSE project, for replacing Poplar Ave crossing with either a tunnel or pedestrian bridge. We understand that the City ultimately has the authority to close its roads as they are the road authority.</p> <p>Electrification will coordinate with the Lakeshore East project team for the final treatment of Poplar Ave crossing, to ensure accommodation of electrification infrastructure.</p> <p>Vol. 2 Sec. 7.8.8 will be updated to reflect this information as appropriate.</p>
72.	Design/Visual	Vol. 2 Figure 7-44 Page 475	The pedestrian bridge shown in the picture features transparent side panels with partial wrapping inward at their top end. Can this approach be taken for bridge barriers at other pedestrian bridges?	See Response to item 57.
73.	Heritage	Vol. 3 page xxxi	HIA's carried out for structures in the City of Toronto should be reviewed by Toronto Heritage Preservation in addition to Metrolinx Heritage Committee for comment.	HIAs for jointly-owned structures will be shared with the City of Toronto for review.
74.	Construction	Vol. 3 page xci	Short Term Construction Impacts - Mitigation Measures should include a Construction Management Plan in addition to a Traffic Management Plan. The CMP should address: dust/mud control on and offsite, location of truck loading points, trailer parking, location of temporary material storage areas, access/truck routing, and any temporary rerouting of pedestrian pathways	Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate. A new subsection in EPR Volume 5 will be added to make this commitment more explicit.
75.	Visual	Vol. 3 Table E-4 & Page ciii	Pedestrian bridges should be assigned to high visual impact. People often stop on these bridges to watch the trains or take in the view, much more so than on vehicular bridges, because the pedestrian bridges are a more comfortable space. Proposed bridge barriers directly threaten these activities and, if designed as opaque walls, would eliminate any view. Therefore, the visual impact would be complete and total, and unacceptable.	<p>The low, moderate, high rankings for level of visual impact will be reviewed and updated as/if appropriate in the EPR and Appendix H taking into consideration the City’s input pertaining to pedestrian bridges.</p> <p>Also see response to item #46</p>
76.	Natural Environment	Vol. 3 Table 7-1	Is all the vegetation really required to be removed for an area of 3.57 hectares?! The footprint of the TAP and TPS installations is considerably smaller than this, as per Figure 7-1. Given this smaller footprint, what is the pink hatched Tap Area actually for in the figure? Does vegetation	Correct, the footprint of the actual TPS and Tap infrastructure is smaller than the property parcel (pink hatched area) shown on the maps however in order to be as conservative as possible when assessing impacts for the EA, the larger property parcel areas as shown on the maps were assessed. As stated in Section 7.1.1.1.1.1, the extent of vegetation/tree

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			removal extend to the turf/shrub vegetation, or is it just trees? If it is <i>all</i> vegetation, what will be the ground cover here?	<p>removals for this site are considered minor and the overall loss of the identified vegetation communities is negligible from an ecological standpoint. Yes, vegetation removal means removal of any and all vegetation.</p> <p>As stated in the Draft EPR, Metrolinx is currently working with municipalities and Conservation Authorities on the development of the Tree/Vegetation Compensation Protocol. As part of this, Metrolinx will continue to engage stakeholders in finalizing the details of the protocol.</p> <p>Regarding mitigation, as outlined below, as part of the Tree/Vegetation Compensation Protocol, if vegetation removals are required within conservation authority lands, applicable removal and restoration requirements will be followed.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from the ROW e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p> <p>Hydro One must maintain specific clearances between lines and trees/vegetation to prevent tree caused outages and electrocutions and therefore any trees removed from the Tap location will not be replaced. However, consideration for plantings that are compatible with transmission lines may be considered. As stated in the mitigation measures for Construction Impacts (Section 3.8.3 of the Natural Environment Impact Assessment Report), once soils are replaced, they should be re-seeded with a native seed mix suited to the site conditions.</p> <p>Correct, the footprint of the actual TPS and Tap infrastructure is smaller than the property parcel (pink hatched area) shown on the maps however in order to be as conservative as possible when assessing impacts for the EA, the larger property parcel areas as shown on the maps were considered. As stated in Section 7.1.1.1.1, the extent of vegetation/tree removals for this site are considered minor and the overall loss of the identified vegetation communities is negligible from an ecological standpoint. Yes, vegetation removal means removal of any and all vegetation.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
77.	Design	Vol. 3 Sec 7.1.2	Where exactly is the feeder route proposed to run? The Figure appears to show it running on the west side of the TTC Scarborough RT line, where it may conflict with edge plantings that act as a screen between the two rail corridors and the community to the west. However, the EA states the feeder lines will be attached to OCS poles which presumably will be located within the Metrolinx corridor adjacent and to the east of the TTC corridor. If that is the case then there should be no conflict re: vegetation. Please clarify.	As described in Vol 1, Section 3.6.6.4, the Scarborough feeder route will commence at the Scarborough TPS location and will run south via aerial cables mounted on top of the proposed OCS along the Stouffville corridor to the point where the Stouffville corridor converges with the Lakeshore East Corridor; from there the 2 X 25kV feeder route continues east along the Lakeshore East Corridor where it connects into the Scarborough SWS. The figure will be revised to make this clearer. The vegetation removal zone also applies to the 2 X 25kV feeder routes - Vol 1 Section 3.6.4 will be updated to clarify this.
78.	Design	Vol. 3 Sec. 7.5.5.1	Please see comment with section reference Vol. 1 page xxxvii	Refer to response to item #46
79.	Land Use	Vol. 3 Sec. 7.6.1.1	The section and Figure 7-12 do not identify the Al-Huda Muslim Society at 975 Kennedy Road. The website for the Centre identifies a school component but it is unclear whether any school activities are carried out at the Centre itself.	It is our understanding, based on a review of information available on their website that school activities occur on Saturdays within a Toronto District School Board space. We recognize that the Al-Huda Muslim Society hopes to include school activities in their present space sometime in the future. With this in mind, this receptor has been added to the Land Use and Socio-Economic Report (Appendix E).
80.	Noise	Vol. 3 Sec. 7.8.7	Assumptions in this section use a performance of noise reduction of "at least 5dB". What is the upper limit of expected performance of a 5m noise wall? There are many receptors noted in Table 7-28 where noise impacts are labelled Very Significant (above 10dB). Are noise walls effective in mitigating impacts of this scale?	<p>The 1995 MOEE/GO Transit Noise Protocol stipulates that: Mitigation must be considered if the project is expected to cause a 5 dB increase or greater in the average noise.</p> <p>The absolute maximum loss that is generally considered possible to achieve from a barrier is around 20 dB. From our modelling, it is predicted that losses up to 14 dB is achievable at receptors whose noise impacts were deemed Very Significant (above a 10 dB increase). Yes, noise walls are effective in mitigating impacts of this scale, as long as the geometries involved are favorable. Barriers that are located very close to the track are most effective, and ground elevations that place the base of the barrier at, or above track elevation are most effective.</p>
81.	Noise	Vol. 3 Sec. 7.8.8	What happens when noise mitigation is deemed non-technically feasible? How is noise mitigated where the noise mitigation is non-technically feasible? Where is this an issue?	<p>As per the 1995 MOEE/GO Transit Noise Protocol: noise barriers are considered technically feasible if they can reduce noise by at least 5 dB. It should be noted that both technically feasible and non-technically feasible noise mitigation were shown in the Draft EPR to present the full extent of the Noise assessment results and for illustrative purposes. However, the Ministry of Environment and Climate Change (MOECC) has advised that the EPR should only show recommended mitigation to be considered for implementation. Therefore, the revised EPR will be updated to omit the non-technically feasible noise mitigation / barrier locations. In accordance with the Protocol, no mitigation measures are proposed as part of this TPAP for locations where noise walls were deemed non-technically feasible.</p> <p>Metrolinx is aware that noise is a concern and is exploring other options to address areas where this is an issue.</p>
82.	Visual	Vol. 3 Sec. 7.10.5.1	Under Bridges/Rail Overpasses - the section includes the following: "To protect the public from energized equipment". The barriers for protection should be associated with the energized equipment, not the public.	See response to item #53.
83.	Design	Vol. 3 Sec. 7.10.6	Under Bridges/Rail Overpasses - this section does not identify overpasses. However, Toronto City Council has passed a resolution to investigate several grade separations in this segment including Havendale Road, Huntingwood Drive, Finch Avenue, McNicoll Avenue, and Passmore Avenue. A	The design of any future grade separation projects will need to accommodate the electrified rail corridor. No changes to the EPR required.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			grade separation is now being studied at Steeles Avenue. The EA should note this upcoming future work and provide comment with that in mind.	
84.	Design	Vol. 3 Sec. 8.1.6.1.1	Under Impacts Related to Bridge Modifications - the City's preferred alternative at address OCS safety may not be attachment of barriers to the bridge, so it is not clear that replacement of the bridge is required.	See response to item #46.
85.	Design	Vol. 3 Table 8-26	Pape Avenue Pedestrian Bridge - the attachment of bridge barriers is not a preferred solution and it is thus not certain that the bridge needs to be replaced.	See response to item #46.
86.	Noise	Vol. 3 Sec. 8.8	The fourth assumption bullet for noise modelling states that 'planned noise barriers' were included in the noise assessment, but their technical feasibility was not evaluated. Without this evaluation the results of the noise assessment may deviate significantly from the actual on-the-ground outcome where a noise barrier is determined to be not technically feasible. When will feasibility be determined and how will issues where barriers are not technically feasible be resolved?	Planned noise barriers refers to barriers that were previously evaluated in other studies, and are planned or in the process of being built. It is assumed that these barriers will be constructed as planned, and thus they have been included in this study. When barriers have been recommended in other studies, their feasibility has been evaluated in those studies, therefore there is no need to revisit that feasibility as part of the current study and would be outside the Electrification scope of work.
87.	Visual /Design	Vol. 3 Figure 4-30	Both examples of typical bridge barriers show short bridges that do not rise above the surrounding landscape as they pass over sunken rail corridors. In such circumstances the affected views are minimal. Most of the affected bridges in Toronto rise above the rail corridor and surrounding landscape, and thus also create unique views from these vantage points. In these circumstances the use of barriers should be reconsidered in favour of canopies over the OCS wires themselves that extend far enough laterally from the bridges to ensure no conflict between people and the wires. The canopies may be free-standing or attached to (or suspended from) the OCS support portals. In the case of pedestrian bridges, the use of bridge based barriers is further discouraged by the fact that these bridges are typically narrow (3-4m in width). Barriers on the bridge will create a claustrophobic and unpleasant condition for bridge users, and may present a significant risk to personal safety if opaque.	See response to item #46.
88.	Design	Vol. 3 Sec. 8.10.5.1	Here, on page 1027 of a 1248 page report, is the first mention of impacts from proposed bridge barriers to pedestrian bridges, their users, and public safety. This discussion, and consideration of alternatives, should be presented up front in the report and then filter through the entirety of the Environmental Assessment.	Regarding alternatives to bridge barriers, please see response to item #46. There are no alternatives to adding bridge barriers as these are required to ensure safety as per Vol 1 Section 3.9.3. Vol 3 Section 8.10.5.1 is not the first mention of potential effects related to bridge barriers. Since bridge barriers impacts are primarily associated with cultural heritage and visual effects, please refer to these sections of Volume 3 for a discussion of how they were assessed/considered. The first section documenting assessment of effects related to bridge barriers is Section 4.3.6.1 of Volume 3.
89.	Design	Vol. 3 Sec. 8.10.6.1	Previous references to the Woodrow Avenue pedestrian bridge state that the bridge will not need to be replaced, but in this passage bridge replacement is identified. What is the final recommendation? Please ensure consistency with the rest of the document.	As per Section 3.9.5.9 of Volume 1 the recommended solution for this bridge is to retain/modify it in order to incorporate a protective barrier for electrification. Vol. 3 Sec. 8.10.6.1 will be therefore be corrected.
90.	Visual	Vol. 3 Sec. 8.10.6.1	As part of the LSE Segment 1 corridor expansion EA, a corridor widening is proposed to accommodate a new rail line on the north side of the existing corridor. East of the Danforth bridge this expanded corridor will directly abut, and may encroach onto, the Kimridge Avenue road right of way. This segment of roadway has single family dwellings on the other side of the	As shown in Appendix G6 – LSE Noise and Vibration Impact Assessment report, a noise wall is recommended at this location. Please also refer to the response for Comment #70 with respect to coordination with the LSE Don River to Scarborough Corridor Expansion TPAP.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			road. Will barriers be proposed as part of the electrification EA along this segment of road? If so, the visual impacts to the adjacent neighbourhood can be expected to be fairly high.	
91.	Natural Environment	Vol. 3 Sec. 9.1.1.1.1.1	If nests and eggs of protected Species at Risk birds cannot be destroyed at any time, what happens if a nest is discovered in tree regrowth that encroaches into the vegetation clearance zone adjacent to the OCS installation? This section only states the requirement but does not outline the approach to dealing with a conflict between the requirement and the requirement for maintenance. Can the nest be moved? If so, this section should outline that approach? If not, what happens?	There are no anticipated impacts to Species at Risk associated with operations and maintenance of the OCS. However, under Section 10.1.1.1.3 of OCS Construction Impacts, mitigation measures are provided for Species at Risk that may travel throughout the rail corridor, and will include vegetation maintenance to be completed outside of the breeding bird window (April 1 - August 31).
92.	Climate Change	Vol. 3 Sec. 9.13	The first paragraph ascribes climate change largely to the burning of fossil fuels to produce energy. A second significant contributor is the burning of fossil fuels for transportation. This should be noted as well.	The last sentence of the paragraph can be revised to say "...to produce energy, for transportation, etc."
93.	Design/Bridge Modification	Vol. 3 Table 11-1	LSE-1-4 Pape Avenue Bridge: Construction Impacts should recognize whether pedestrian movement will be impaired during construction (ie. because the bridge will be removed). Or is a new bridge intended to be constructed while the existing bridge remains in operation? Please clarify. Stouffville line elements in the table do not address the Mooregate/Tara Avenue pedestrian bridge at all. What is the plan here?	<p>It should be noted that further work was completed following circulation of the Draft EPR in January 2017. As a result, the recommendation for the Mooregate/Tara Ped Bridge was revised from replace the structure to retain/modify to accommodate the addition of a protective barrier. The EPR and specifically Tables 3-3 to 3-8 will be updated to reflect the revised recommendations for each structure.</p> <p>Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate. At this time, it is not anticipated that a temporary bridge will be built as part of the pedestrian bridge construction works.</p> <p>The Natural Environment Impact Assessment Report (Appendix A2) and associated figures will be revised to state/show that the Pape Av and Mooregate/Tara Pedestrian bridges will undergo modifications only.</p>
94.	Land Use	General	The EA considers certain impacts in terms of "sensitive uses", which are not defined but appear to include only schools and daycares. The Province defines sensitive land uses as "buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effects from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built environment. Examples may include, but are not limited to: residences, day care centres, and educational and health facilities" (taken from the Provincial Policy Statement, 2014). The EA should use the same standard as the province and the assessment should recognize all sensitive land uses, including the residential uses.	<p>For the purposes of the Land Use assessment study for the Electrification project, the term 'sensitive receptor' is defined in the Land Use and Socio-Economic Baseline Report Section 3.2 (Appendix E1) as: "child care centres, schools, long term care centres, and hospitals." The term 'sensitive receptor' is defined by various policies, including the Provincial Policy Statement (PPS). The PPS defines 'sensitive land uses' for the purposes of assessing land use planning and development projects under The Planning Act.</p> <p>Further, 'contaminant discharges generated by a nearby major facility' are not anticipated or included as part of the electrification project works.</p> <p>The Land Use assessment for the Electrification TPAP focused on the potential effects to sensitive land uses as defined above in order to avoid overlap with the sensitive receptors reviewed by other disciplines. The present definition helps streamline the assessment while still avoiding gaps in the assessment process. Additional information pertaining to sensitive receptors and the direct and indirect impacts to all land-uses as defined by the PPS can be found in the: Natural Environmental Assessment Report (Appendix A), Noise and Vibration Modelling Reports (Appendix G), and the Visual Assessment Report (Appendix H),</p> <p>Furthermore, the Noise and Vibration Assessment Reports contained in Appendix G as well as the Visual Assessment Report contained in Appendix H consider effects related to noise, vibration and visual on residences in the vicinity of the rail corridors and traction power</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				facilities in detail. Therefore, this same assessment of effects on nearby residences does not need to be duplicated in the Land Use Assessment Report.
95.	Land Use	Appendix E1 Sec. 3-2	The definition of "sensitive receptor facilities" appears to identify places where children are present and where people are convalescing, but it misses the place where people spend the most time and wish to be able to relax - that is, their place of residence. This comment builds on the previous general comment regarding the definition of sensitive uses in the Provincial Policy Statement.	See response to comment #94.
96.	Design	Vol 5 Sec 1.3.3 Pg 7	"Submissions relating to building permits and Site Plan approvals will be made in the spirit of co-operation and to provide the municipality with an opportunity to comment". The City's standard site plan control requirements and review procedure are set out in the Toronto Development Guide found in this link: http://www1.toronto.ca/static_files/CityPlanning/PDF/guide_sectionD.pdf	Comment noted.
97.	Noise	Vol 5 Sec 1.10.1.5 Pg 52	"Specifically, during <i>detailed design</i> , each location recommended for noise mitigation (<i>whether deemed technically feasible or non-technically feasible in this EPR</i>) will be further reviewed to determine the administrative, operational, economic and technical feasibility and to further define what type of mitigation will be implemented (if applicable)". What happens if a recommended mitigation measure is "non-technically feasible"? If mitigation is required, measures need to be implemented. Also, in the November 2016 Public Open Houses, noise mitigation was a key issue raised by the public, especially in the Agincourt Community. Accordingly, the EPR should be revised to include contextually-appropriate conceptual approaches / options to address noise mitigation based on best practices.	See response to comment #81.
98.	Design / Out of scope	Vol 1 Sec 3.9.6.5, Pg 163	General Comment - There is no acknowledgement of what is being proposed for existing at-grade crossings along the Stouffville RR Line to accommodate RER. Please refer to the City Council Decision requesting Metrolinx to assess the requirement for grade separation as part of the infrastructure required by the Province to implement RER at various locations within the City found in this link: http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX19.1	Consideration/evaluation of new grade separations is outside the scope of the GO Rail Network Electrification TPAP and the EPR will be updated to state this. The design of any future grade separation projects will need to accommodate the electrified rail corridor. No changes to the EPR required.
99.	Land Use	Vol 2 Executive Summary - Land Use and Socio- economic, Pg XCVI	What legislation / guideline is the definition of "sensitive receptor" based on? Why are residential uses and hospitals excluded from this definition?	See response to comment #94. In addition, it should be noted that hospitals were considered as part of the EMI/EME Assessment Report contained in Appendix J.
100.	Visual	Vol 3 Sec 7.10.5.1, Pg 819	"During detailed design, efforts will be made to minimize visual effects of the OCS infrastructure as much as possible". Identify potential mitigation measures.	A Design Excellence process will be followed to integrate the OCS design into GO Stations to reduce the extent of visual impacts. Visual impact mitigation strategies for OCS will be identified and incorporated into the design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of 'high' visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
101.	Visual	Vol 3 Sec 7.10.6.2 Net Effects, Pg 821	"in areas where homes are less than 8m from the railroad line installation of fences and/or vegetative screening will improve the privacy but OCS infrastructure will still be very visible to those homes, therefore residential residual visual effects are considered moderate in these	The methodology and criteria used to assess potential visual effects is detailed in Section 2 of the Visual Impact Assessment Report contained in Appendix H. This methodology description will also be added to Volume 3 of the EPR.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			areas." Why is this condition deemed to be acceptable? What criteria is being used to assess visual impact and what criteria is being used to determine if visual impact is acceptable?	It should be noted that where existing residences are very close to the railroad there is no practical way to shield views of the new electrification infrastructure.
102.	Land Use	Appendix E1, Sec 4.5.1.2.1., Pg 93	"The purpose of this plan is to accommodate new employment and residential targets that have resulted from the development of the Sheppard Subway." As per Policy 1.1 of this Plan, expand this statement to add the following "and to provide site-specific densities and policies to accommodate development prior to construction of the subway."	This statement has been expanded as requested.
103.	Land Use	Appendix E1, Sec 4.5.1.2.1., Pg 93	"There are no Secondary Plans affecting the lands adjacent to this section of the rail corridor in Toronto." Revise this statement to indicate "The Steeles Redlea Regeneration Study Official Plan Amendment 321 was approved by City Council on November 8 and 9, 2016. Although OPA 321 has been subsequently appealed to the Ontario Municipal Board and is not in full force and effect, it does reflect Council policy." A link to the Council decision can be found at: http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PG15.5	See response for comment #64
104.	Land Use	Appendix E1, Sec 4.5.1.2.1., Pg 93	List all active development applications abutting the RR corridor including: 1/ SPC Application at 208 McNicoll Ave (TTC McNicoll Bus Garage); 2/ SPC Application at 4140 Finch Ave E (partial demolition and interior alterations to permit a private school); 3/ SPC Application at 65 Passmore Ave (mobile, ready-mix concrete facility)	See response for comment #67.
105.	Visual	Appendix H, Figures E1 to E10	General Comment - While areas have been mapped and categorized ranging from "no impact" to "high visual impact", what criteria is being used to assess visual impact? What criteria is being used to define each category? What potential recommendations will be implemented to mitigate visual impact for areas shown as "high visual impact"? Please clarify and elaborate on the above.	See response to comment #101. It should be noted that where existing residences are very close to the railroad there is no practical way to shield views of the new electrification infrastructure. However, in other cases such as visual effects related to bridge barriers, a design excellence process will be undertaken to review options for barrier design in visually sensitive areas. Further, in areas where traction power facilities are proposed in the vicinity of residential areas, screening measures around the facilities will be considered in order to shield views. Please also refer to the Visual Impact Assessment Report contained in Appendix H for further detail.
106.	Formatting/Figures	Vol 1 Figures 3-10 to 3-13	These figures are so hard to read. Please enlarge the figures and their fonts.	The figures will be reviewed to enhance the aesthetics as much as possible.
107.	Land Use	Vol 2- Section 6.5.5.2	Steeles-Redlea Regeneration Area study should be included.	See response for comment #64
108.	Land Use	Vol 2- pg cvi	Kingston Road Avenue Study between Guildwood Go Station and Highland Creek, defined in LSE (Segment 3), should be included in the Land Use & Socio-Economic section.	See response for comment #61
109.	Visual	Vol 2- pg 370	it is North of Lawrence Avenue not Eglinton ...	The text in this section will be updated accordingly.
110.	Spelling/Grammar	Vol 2- pg 372	Corvette Road or Avenue? Please note that the report should talk about maintaining existing pedestrian connection at railway crossing and Corvette Avenue.	The text in this section will be updated to note reference to Corvette Avenue as appropriate. The introduction of electrification infrastructure is not anticipated to impact existing pedestrian connections.
111.	Design	Vol 2- Section 7.8.8	It should be noted that grade separations are planned at Galloway Road, Morningside Avenue, and Scarborough Golf Club (identified in LSE Segment 3 corridor expansion EA).	Acknowledged, however assessment of grade separations is outside the scope of the GO Rail Network Electrification TPAP.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
112.	Commitments	Vol 5- Section 1.3.3	The electrification EPR only commits to "submit applications for review and information." It is a very weak statement from City's perspective. The City wants to maintain the right to further review and comment on different stages of Electrification planning and design.	Acknowledged. Metrolinx will continue to coordinate with the City during the next stages of planning and design.
113.	Design	General Comments	Any decision regarding road closure must address Official Plan Policy 3.1.1.7 that is <i>"Toronto's concession road grid is a major organizing element to be maintained, improved and recognized in public design initiatives. To improve mobility and recreational opportunities where these streets are interrupted by topographical features or utility corridors, pedestrian and bicycle routes should be established across these features"</i> .	Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.
114.	Design	General Comments	Where pedestrian bridge replacement is recommended, how will pedestrian activities get managed / affected during construction.	Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.
115.	Design	Appendix E1 Sec. 4.5.1.1 & Figure 4-27	This is the first mention of the TPS north of Eglinton Avenue adjacent to the Scarborough RT corridor. Why is there no discussion of this facility and its impact to the existing apartment building to the east in the main documents of the EPR? Although the EA conveniently defines sensitive receptors to not include residential uses, I would argue that the adjacent apartment building (40m to the east and facing the potential TPS) is sensitive and should be considered. In light of this the proposed location of the TPS may not be suitable. But isn't the TPS now proposed to the north in the hydro corridor? If so, this section needs updating.	<p>The location of the Scarborough TPS as shown on this figure is outdated and is no longer proposed. The baseline conditions reports were completed at an earlier stage of the TPAP and therefore changes to the project design that occurred following the baseline phase were subsequently captured in the Impact Assessment Reports. In order to make this clearer, the Methodology section of the Land Use Baseline Conditions Report (Appendix E1) will be updated to explain this more clearly.</p> <p>Also note that the EPR Volume 2 - Baseline Conditions contains detailed descriptions of all land use existing conditions for each of the current/proposed traction power facility (TPF) sites. Accordingly, EPR Volume 3 is provides the detailed impact assessment study results for each TPF.</p> <p>The recommended location of the Scarborough Tap and TPS are shown in Volume 1, Figure 3-47 as well as in Appendix E2, Figure 4- 6.</p> <p>See response to comment #118.</p>
116.	Land Use	Appendix E1 Sec. 4.6.2.1.2	There is a senior's care residence at 3555 Danforth Avenue (Chester Village), directly adjacent to the rail corridor. This should be included as a sensitive receptor.	This location as a sensitive facility has been added to the mapping in the Land Use and Socio-Economic Report (Appendix E) and in Mapping of Land Use Designations (Appendix R).
117.	Land Use	Appendix E1 Sec. 4.6.1.2.1	While there are no Secondary Plans in place along this segment of the corridor, a planning study is currently underway for Danforth Avenue west of Victoria Park Avenue. The study incorporates lands immediately adjacent to the rail corridor. This study should be identified in this section.	The Land Use and Socio-Economic Report (Appendix E) has been updated to include reference to the planning study for Danforth Avenue West of Victoria Park Ave.
118.	Land Use	Appendix E1 Figures B-112 & B-113	These figures show the Scarborough TPS at Eglinton Avenue rather than in the green space along the Hydro corridor. Please revise to be consistent with the rest of the draft EPR.	<p>The location of the Scarborough TPS as shown on this figure is outdated and is no longer proposed. The baseline conditions reports were completed at an earlier stage of the TPAP and therefore changes to the project design that occurred following the baseline phase were subsequently captured in the Impact Assessment Reports. In order to make this clearer, the Methodology section of the Land Use Baseline Conditions Report (Appendix E1) will be updated to explain this more clearly.</p> <p>Also note that the EPR Volume 2 - Baseline Conditions contains detailed descriptions of all land use existing conditions for each of the current/proposed traction power facility (TPF)</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p>sites. Accordingly, EPR Volume 3 is provides the detailed impact assessment study results for each TPF.</p> <p>The recommended location of the Scarborough Tap and TPS are shown in Volume 1, Figure 3-47 as well as in Appendix E2, Figure 4- 6.</p>
119.	Natural Environment	General Comments - Natural Heritage Systems and Features	<p>Baseline assessments should include municipal natural heritage systems and significant areas:</p> <ul style="list-style-type: none">- Natural heritage system http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=03eda07443f36410VgnVCM10000071d60f89RCRD See Map 9 and Map 12- Environmentally Significant Areas (ESAs) http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=68fd811f23248410VgnVCM10000071d60f89RCRD	<p>The City of Toronto's online Interactive Map was used to identify and estimate ESA boundaries within the study area and was included in the Natural Environment Impact Assessment Report and associated figures (see Appendix A2).</p>
120.	Natural Environment	General Comments - Protection, Restoration and Enhancement of Natural Heritage	<p>Impact assessments should include impacts to and restoration and enhancement of impacted natural heritage features.</p> <p>Proposed restoration and enhancement of impacted natural heritage features will be confirmed by Urban Forestry, Ravine Protection and/or TRCA.</p> <p>Policy 3.4.13 of the Official Plan requires that new or expanding infrastructure will avoid ESAs unless there is no reasonable alternative, adverse impacts are minimized and natural features and ecological functions are restored or enhanced where feasible.</p>	<p>Metrolinx is developing a methodology to compensate for trees located within Metrolinx's property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
121.	Natural Environment	General Comments - Permits	<p>Projects located within the City's Ravine and Natural Feature Protection area may require a permit. For additional information:</p> <p>http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=9b4fdada600f0410VgnVCM10000071d60f89RCRD&vgnextchannel=4bb1927e1d3e9410VgnVCM10000071d60f89RCRD</p>	<p>This type of permit is already listed in Table 1-1 of EPR Volume 5. Refer to response to Item #20.</p>
122.	Design	Volume 1 - Section 3.9 Bridges and Rail Overpass	<p>Wherever a bridge rehabilitation, replacement or new structure is required, please review the feasibility to provide:</p> <ul style="list-style-type: none">• Cycling facility on the overpass or underpass• Appropriate sidewalk width (a minimum of 2.1 m)• Sufficient buffer from the travel lanes to pedestrian sidewalk; and• design the crossing street in accordance with the City's most updated design guidelines, as well as the Complete Streets guidelines	<p>Where bridge rehabilitation is required, it is expected that the existing cross section will be retained. Requirements/cross section for bridge replacements will be coordinated with the bridge/roadway authority/owner as part of detailed design.</p>
123.		Overall	<p>Please ensure that City Staff will be closely involved in every stage of the detail design and implementation of the Electrification project.</p>	<p>The City will continue to be consulted throughout future phases of the project's planning, design and construction phases.</p>
124.		Volume 1 - Section 3.9 Bridges and Rail Overpass	<p>Bridge Protection Barriers: Please note involvement of Urban Design in Metrolinx's Design Excellence Committee in Detail Design for bridge protection barriers. Criteria for selecting</p>	<p>Agreed. Metrolinx is committed to work with the City of Toronto on bridge designs. Please see response to comment #14.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			enhanced design treatments should include bridges with high pedestrian traffic such as the Eglinton Ave Bridge adjacent to Caledonia Station (Please add Eglinton Ave bridge to Table 1-6 Areas of Special Visual Consideration in Vol 5). Coordination between EA processes for Caledonia Station and Bridge Protection Barriers design needs to be noted in both studies to ensure design compatibility. A range of materials for protection barriers should be presented as part of detail design including transparent materials. Material selection allowing for public art or mural installation is also recommended.	
125.		Volume 1 - Section 3.14 Vegetation Management	Notation should be provided regarding requirement of replacement planting for vegetation clearance, preferably within the same site where vegetation was cleared to replace the landscape buffer.	Planting within the 7m vegetation clearance zone is not possible/feasible since all vegetation is required to be removed from within this defined zone. Refer to response to Item #20.
126.		General	My comments are focused to higher level planning concerns and priority locations, given the review period. I would expect that City Planning will have extensive opportunities to comment/further input during the design period.	Yes, the City of Toronto will continue to be engaged as part of future project phases.
127.		General	New RER and Smart Track stations are not accounted for in this EA, and it is noted that the future station EA's will account for electrification. Given that these stations have already been approved by the Metrolinx Board and Toronto City Council, could their generalized locations be identified on the plans?	A section discussing future stations as they related to electrification will be added to EPR Volume 1.
128.		General	Further to above, a piece/commentary entitled "factors to consider in future station EA's as a result of electrification" could be well placed in this report.	As stated in Section 3.13 of Volume 1, future GO Station planning/EA/design will account for their electrification.
129.		USRC	The report notes that new noise barriers are required along the USRC between Spadina/Bathurst. The City is planning Rail Deck Park in this area and is taking steps to move forward with an Official Plan Amendment in the near future.	<p>The need for noise barriers in this section of the USRC will be reviewed under a separate EA by MX for the recently announced Spadina GO Station.</p> <p>It should be noted that noise modelling for electrification determined that this noise barrier is technically feasible. However, the locations of proposed noise barriers are a preliminary assessment, and will need be evaluated further during detailed design.</p>
130.		General	Electrification will impact a significant number of existing and planned infrastructure (e.g. track expansions, new stations, grade separations, active transportation expansion) and development intensification in the City of Toronto - probably more so than any other singular project. Because so many of these projects are being planned concurrently, it becomes difficult to track the cumulative effects. One alternative that could help to mitigate this concern is that this EA, (being the largest of the MX EA's) conduct a cumulative effects assessment, similar to what is required through the CEAA federal Environmental Assessment process.	<p>Cumulative effects assessment is not a requirement of the Transit Project Assessment Process. Notwithstanding this, the current GO Rail Network Electrification TPAP does account for other Metrolinx project works that are ongoing or planned such as planned track expansions which were incorporated into the process for establishing the OCS Impact Zones and Vegetation Clearing Zones. These zones were subsequently utilized to conduct the environmental impact assessment studies undertaken for the Electrification TPAP.</p> <p>With regard to new GO Stations, as stated in the EPR, any electrification impacts/provisions for new stations will be assessed and considered as part of future EA/TPAP studies.</p> <p>There are no specific design considerations required for grade separations in relation to electrification design.</p> <p>Generally speaking, known/planned projects and grade infrastructure plans were accounted for in the Electrification TPAP and electrification conceptual design to the extent possible and within the timeline parameters set out for the project.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
131.		USRC, LSW	Required modifications to/replacement of any bridges on LSW and the USRC corridors should be coordinated with subsequent phases of the City/TTC/Waterfront Toronto's Waterfront Transit "Reset". Council directive for subsequent phases/implementation of this project is anticipated in Fall 2017.	Required replacement of any bridges on the LSW corridor will be coordinated with subsequent phases of the City/TTC/Waterfront Toronto's Waterfront Transit "Reset" as appropriate through future EA addendum studies to be completed.
132.		LSW	The City/TTC has EA approval for an LRT extension along the north side of Exhibition Place, across the Dufferin bridge. Raising the Dufferin bridge profile to generate sufficient clearance for the Lake Shore West Rail corridor electrification affects this EA-approved alignment. This should be documented in the report.	See response to comment #1.
133.		Section 3.9.4.8 (Barrie)	Potential lowering of UG bridge superstructure and Lansdowne Ave – if this becomes necessary, how will this be coordinated with the West Toronto Rail Path design? Also, lowering the roadway would degrade the pedestrian/cycling experience along Lansdowne Avenue – the existing pedestrian/cyclist climb/grade to the north is significant. Finally, this underpass was fairly recently redone.	<p>As noted in Vol 1, Table 3-6, the Lansdowne Ave rail bridge may be impacted due to work anticipated at the OH roadway bridge at Dundas Ave (M3.37).. Design and work at Lansdowne Ave rail bridge will be coordinated between Metrolinx and the roadway authority.</p> <p>The actual design for the railpath will be undertaken as separate process from the Electrification TPAP/project, not finalized yet. Work has to be coordinated with future corridor and stations developments as well as Electrification, to protect for the railpath through this corridor section. The City will remain looped in as plans are developed.</p>
134.		OCS and Vegetation Impact zones	The report is silent on what could be permitted within the fringes of the 5 m OCS impact zone and "conservative" 7 m vegetation clearing zones. We anticipate continued detailed discussions in the design phase about what may be permitted through specific areas. The City considers the multi-use paths along some of these corridors – either with approved EA's, (e.g. West Toronto Rail Path), in the active planning stages (e.g. Barrie Corridor Rail Path), or simply in the "idea" phases) as future critical community linkages within the urban fabric.	Acknowledged. For vegetation impacts and compensation refer to response to Item #20.
135.		Alternative Power Supply/Distribution, Section 1.6.1	Section 1.6.1 notes that "a third rail" was examined as a power supply and distribution alternative in the 2010 electrification study – I did not see at least a cursory documentation in this report on why the third rail was ruled out and why OCS was selected as the preferred power supply/distribution method across the network. Also, there is no discussion if "third rail" (or alternative) power supply and distribution system could be applied to select locations in the network. Additional cursory level detail – specifically the reason(s) why the third rail (and potentially other forms of) power supply were ruled out (e.g. DC vs AC considerations) , should be noted in this report. Other TPAP that Metrolinx have completed have documented these pre-planning/feasibility steps.	The 2010 GO Electrification Study examined the technical viability of DC and AC systems, including both OCS and third rail. A DC system with third rail was not preferred due to safety concerns at at-grade crossings and speed limitations.
136.		Section 1.7.5 (USRC)	The section does not indicate the USRC East TPAP is an ongoing study. My understanding is that study is planning public consultation in Q2 2017.	Vol 1 Section 1.7.5 will be augmented to include a summary description of the USRC East Expansion TPAP.
137.		Visual/Aesthetics - USRC	<p>For the visual assessment, the definition of "Areas of High or Moderate Potential Impacts" should be broadened to include viewsheds of consistent and exceptional density which may be beyond 8 metres of the railroad ROW.</p> <p>More specifically, the visual effects of the electrification of the USRC are concerning. It is the widest portion of the network being electrified, and hundreds of thousands of residents, workers, and visitors in the economic heart of the country lay sight on and traverse this corridor every day. While Union Station is identified as a "moderate" visually sensitive location, there are areas with direct views of this corridor east of Union that are identified as "low" or even "no" visual impact.</p>	<p>Acknowledged.</p> <p>Design excellence and public realm considerations will need to be part of a successful USRC East project and the project team is focused on how to design the project in a way that is sensitive to future plans and to mitigate impacts where possible will help both of us deliver on mandates that support community building and connectivity.</p> <p>Electrification design will be closely coordinated with the USRC project.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Understanding that the existing Gardiner and existing rail corridor may contribute to these designations, a context sensitive approach for this specific area should be developed in close coordination with City staff. The City has invested, and continues to invest a great deal in the communities adjacent to the north and south of the USRC, including the central waterfront area. These extensive, decades long City building efforts have resulted in realized and future revitalization of the Distillery District, West Don Lands, Lower Yonge, East Bayfront, and Keating Channel. City, TRCA, and Waterfront Toronto initiatives have resulted in new parks, both planned and constructed, flood protection, new development, and a plan to realign/urbanize the Gardiner east ramps and Lake Shore Boulevard East.</p> <p>In light of the above comment, coordination of electrification design with the USRC expansion EA is required.</p>	
138.		Union Station Area	Pedestrian congestion within Union Station and in the area surrounding Union Station is an issue of increasing concern to the City. Proposed installation of OCS/wiring within the Union Station train shed could limit/preclude future above grade vertical pedestrian circulation expansion opportunities (if feasible, considering the train shed height limitation and heritage status) that could help address increasing pedestrian congestion in future (e.g. beyond 2031).	The electrification of Union Station will not preclude possible future above grade vertical pedestrian circulation expansion opportunities assuming that appropriate design standards are followed.
139.		General	Pedestrian Bridges - Innes Avenue, Pape Avenue. Design Prototypes required to assess impact relating to these proposed new bridges.	This will be completed during final design.
140.		General	Plans need to comprehensive and look at the cumulative impact of changes to the transportation infrastructure on an existing community. With all elements of the RER program shown on	See response to comment #130.
141.		General	Connections - Further work is required at station locations and through the corridor on existing and new pedestrian connections ensure barriers are not created within established communities at the expense of transit infrastructure.	This is outside the scope of the current GO Rail Network Electrification TPAP.
142.			Wallace Bridge is a local landmark and much loved by the local community and part of the local identity - Further information is required to understand proposed changes to this structure.	Please note that the Wallace Avenue bridge is outside the project scope but was previously assessed under the UP Express Electrification TPAP.
143.		General	Removal Green Edges / Vegetation Clearance Zones - In many areas of the corridor trains pass through ravines and parks where the character of the area is green and the buffer to the corridor has predominantly been a Vegetated berm which has been use to screen/ mask the train infrastructure. What does Metrolinx proposed to do to maintain this character through these sensitive areas while making proposed upgrades to the infrastructure?	<p>As outlined in Vol 1 Section 3.6.4:</p> <p>A Vegetation Clearing Zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The Vegetation Clearing Zone entails vegetation removals within the area encompassed by the overhead contact system/2 X 25 kV feeders plus an additional 2 metre offset area on either side of the OCS components or 2 X 25 kV feeders. As a result, the total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on either side of each rail corridor. The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final OCS design.</p> <p>Vegetation clearing is required to:</p> <ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue.Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
144.			Topiary Signs - Visual Analysis required to determine collective impact on signs by the cumulative impact of the RER program.	Potential visual impacts are described in Section 3.2.8.1 of the Visual Impact Assessment Report (Appendix H2). For cumulative impacts of the RER program, see response to item #130
145.			There is a distinction between leasehold rights vs. freehold ownership - this distinction is not reflected in the documentation provided. It would be helpful if Metrolinx identifies which lands you own vs. the lands you lease in the EPR documents	<p>Metrolinx owned land along the rail corridors is depicted in the Appendix N mapping – see red lines in particular (“Existing GO Right of Way). Also refer to Section 3.7.3 of EPR Volume 1 for ownership information related to proposed traction power facility sites.</p> <p>Regarding property requirements along the rail corridors for electrification purposes, as outlined in EPR Volume 1, Section 3.7.1, “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.”</p> <p>Furthermore, information regarding property acquisition requirements/easements relating to the installation of the traction power facility sites has been detailed in Section 3.7.3 of EPR Volume 1.</p>
146.			<p>Place making Responsibility of Transit Infrastructure when impacting civic space. What is Metrolinx's response to contribute and enhance vs. detracting public spaces?</p> <p>Metrolinx has mentioned numerous times its commitment to design excellence, but what is meant by that is very unclear to both the city and the study team. Vague ideas around public art or civic elements are mentioned but a clear design strategy around the treatment of public facing edges has not been articulated or principles presented. New transit infrastructure has a responsibility to be a good civic neighbour and enhance not detract from public spaces, to do such design of the public realm adjacent to infrastructure which is public facing must be advanced.</p>	In general, Metrolinx’s design excellence process refers to a review process overseen by the Metrolinx Design Review Panel (MDRP). The MDRP provides meaningful feedback and direction related to architecture, urban design and landscape architecture, at key junctures in the design process for Metrolinx projects over \$10M, located in a mobility hub or projects with a significant public face. Input is provided early in the design process to ensure that high-quality design is a critical consideration in all capital projects.
147.			<p>Civic Elements in Civic Spaces - This includes what elements are placed there, the level of design refinement, their grounding in the local character, etc.</p> <p>Civic Elements in Civic Spaces –This includes what elements are placed there, the level of design refinement, their grounding in the local character, etc.. and how these designs are integrated into the project drawings to ensure fit within a community and delivery from the project company. It is our recommendation that public realm design work is advanced</p>	Acknowledged. See response to Comment # 146.
148.			<p>Land Use Assessment: lacks detail. In areas of significant impact</p> <p>Land Use Assessment: lacks detail and in some instances understanding of height and relationship between buildings. What is provided is not nuanced enough to provide proper analysis around impacts to mixed-use buildings along the rail corridors. It is recommended that a 3D model be provided in high density mixed used areas such as Liberty Village, USRC and Davenport to understand impacts of new infrastructure in relation to high density communities that abut the corridors.</p>	We assume this comment is in relation to visual impacts of the OCS. 3D renderings have not been prepared at this time. Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact as identified in the EPR will be reviewed for specific design measures that will be incorporated to mitigate visual impacts of OCS.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
150			<p>Multi-Use Path Bloor to Dundas -</p> <p>Current EA documentation are quite vague about the infrastructure requirements and setbacks adjacent to the future Multi-Use Path which extends the new Davenport Multi-Use path from Bloor to Dundas and then connects to the Rail path extension to the south. The city and the public have been quite clear of the importance of this connection and it's relationship to the Railpath. It is recommended that Metrolinx advance design concepts which allow the electrification infrastructure to be installed without interfering with the connectivity of the trail system. To date no such concepts have been provided despite numerous requests to show how these two systems will work together.</p>	<p>The actual design for the railpath will be undertaken as separate process from the Electrification TPAP/project, not finalized yet. Work has to be coordinated with future corridor and stations developments as well as Electrification, to protect for the railpath through this corridor section. The City will remain looped in as plans are developed.</p> <p>With regard to Electrification setbacks, restrictions and barrier protection structures required in conditions of trails abutting electrified rail corridors:</p> <ul style="list-style-type: none">• Minimum 5 meters from the centerline of the track for a non-climbable wall; 8m minimum for a climbable (tiered) wall.• Section 3.10 of EPR Vol 1 will be updated to include information related to locations where horizontal barriers will be required along the corridors.
151			<p>Public Facing Elements - Plans which identify all public facing elements (retaining walls, sound barriers,</p> <p>It is recommended that Metrolinx develop guidelines in consultation with the city of Toronto to provide some design direction around Public Facing Elements such as retaining walls, noise barriers, bridge barriers, fencing, paralleling station design and other electrification infrastructure. Little to no design work has been provided on what this elements will look like and how they will fit into the existing built environment.</p>	<p>Guidelines for electrification are available on the GO Engineering Site http://www.gosite.ca/engineering_public/standard_drawings/standard_drawings.aspx See response to Comment #146</p>
152			<p>Consolidated Plans</p> <p>Metrolinx needs to provide Consolidated Plans of all infrastructure requirements in a given area. At present various elements are identified in various EA documents but the cumulative effect to an area has not been yet been mapped and shared with city staff.</p>	<p>See response to Comment #130</p>
153		Volume 1 - Pg. 97, Figure 3-12	<p>Typical Cantilever - Pole Rake Diagram - What is the clearance of the Cantilever and can it be fixed to stationary wall? What is the off-set? Can this be used in tight area or as a solution to achieve the Multi-Use path between Bloor & Dundas?</p>	<p>The ability to fix a cantilever to a wall is dependent on the type of wall in question. Attachment to walls will depend on the style of wall, some methods of building walls are not suitable for wall attachments. Generally speaking site specific details will be determined during final design.</p> <p>The actual design for the railpath will be undertaken as separate process from the Electrification TPAP/project, not finalized yet. Work has to be coordinated with future corridor and stations developments as well as Electrification, to protect for the railpath through this corridor section. The City will remain looped in as plans are developed.</p>
154			<p>Train Shed? - What happens with the new glass roof structure? How is the original design intent for the shed maintained while the additional infrastructure is added?</p>	<p>The glass roof will not be affected. Support of the wires through this area will be done using poles installed on the platform.</p> <p>OCS support through the Union Station Train Shed will be attached to the existing truss structures on either side of the glass atrium. It is not anticipated that any integration with the glass atrium will be required.</p>
155			<p>Visual Impacts Residential Areas: South Parkdale / St. Lawrence District</p> <p>It is recommended that Metrolinx undertake View Analysis for residential areas that abut the rail corridor at select location to better understand the visual impact of the proposed infrastructure. Recommended locations included, but are not limited to St. Lawrence District, Liberty Village, Queen West Triangle, Distillery District. A recommended measure would be at locations along the</p>	<p>As part of the Electrification TPAP a Visual Baseline Report and Visual Impact Assessment report was completed. Refer to Appendix H1 and H2 of the EPR.</p> <p>Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of 'high'</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			corridor where electrification infrastructure is parallel to the site line of primary facing windows and setbacks are less than 30 m. This is of significant concern at multi- unit residential buildings where units typically have one frontage and is their primary source of light.	visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.
156			Waterfront Connections: Connections to the Waterfront has long been barrier, with additional length in Jarvis, Sherbourne and Parliament underpasses being proposed what changes to the extension are contemplated to minimize barriers. How does this fit in with the Pedestrian Realm Improvements contemplates as part of the Gardiner Public Realm Improvements?	<p>The USRC East corridor has always been part of any discussion related to the waterfront given ongoing plans over the years to expand and not eliminate this corridor. During these discussions there has been no question that design excellence and public realm considerations will need to be part of a successful USRC East project.</p> <p>We look forward to continuing to work with City staff to resolve these matters and to support efforts to reconnect the waterfront for all to enjoy. The Electrification team acknowledges that this work is being led by the USRC East Enhancements project team and coordinated for both projects.</p>
157			Assessing Cumulative Effects on Neighbourhoods -	Metrolinx requests clarification on the question/comment in order to formulate a response. See response to comment #130.
158		USRC	West Don Lands School Site: With additional setback and barriers contemplated for lands adjacent to the tracks is this still the appropriate site for the school and if not should IO contemplate moving the school to a new location prior to disposing of other land holdings?	The question of moving the school is beyond the purview of this project.
159			Transitions - Retaining walls, sound barriers, fencing and other rail infrastructure all create vertical edges which from both the public realm and adjacent land uses. The transition of these elements need to be thought of not only as a functional element but as a public edge where logical transitions need to happen based on space on both sides of the vertical element.	Acknowledged.
160			New Bridge& Bridge Barriers - Strachan, Dufferin, Dunn, Jameson, Dowling: Design Prototypes required to access impact relating to these proposed new bridges.	<p>Design prototypes are not part of the current TPAP scope of work. See response to comment#14.</p> <p>It is envisioned that the detailed assessment of environmental impacts and public/stakeholder consultation related to modifications to Dufferin, Dunn, Jameson, Dowling bridges will be carried out (as required) as part of an Addendum to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design.</p>
161			Lansdown Bridge: Was just complete refurbished and there is already a significant grade change already? What does replacement with a shallower superstructure entail, further information is required.	As noted in Vol 1, Table 3-6, the Lansdowne Ave rail bridge may be impacted from work anticipated at the OH roadway bridge at Dundas Ave (M3.37), however this will need to be confirmed during detailed design. The City will be consulted with for the final design.
162			Horizontal Barriers : Proptotypes required, further collaboration with Design Excellence team required.	See response to comment #160.
163		Volume 2 - Pg. 19, Figure1-16	Proposed Paralleling Station LSE Don Yards There are numerous concerns with this proposed location including Integration with the East Habrour Station, Integration with the new flood protection feature required on the north side of the Lakeshore Corridor East and Integration with the Unilever Master Planning Work including area wide pedestrian and cycling connections.	<p>Metrolinx will continue working with the City of Toronto and other stakeholders including Waterfront Toronto and TRCA to identify design solutions that align with the strategic direction outlined in the various City building initiatives.</p> <p>Metrolinx intends to have further discussions with City staff as part of upcoming Technical Advisory Committee meetings for the project.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MCIC				
164		Appendix J1 – EMI / EMF Baseline Conditions Report - General	<p>In EMC there are two aspects that need to be considered in a project, those being ‘transmitters’ of EMI/EMF that generate these phenomena and ‘receptors’, those affected by EMI/EMF. The assessment undertaken in Appendix J – Part J1 was to identify areas considered to be ‘receptors’ within the rail corridor of the project. The second aspect of the report is to provide ambient EMI/EMF results measured in the areas identified. The report utilises the zoning principles for identifying the areas possibly “at risk” within the rail corridor. The furthest extremity, Zone 3 within the EN 61000 standards look for a distance of >10m. Beyond the 10 m railway boundary, “light industrial” environment EMC standards apply. In practice, it is more likely that there is a gradual transition from “heavy industrial” limits to “light industrial” limits and associated EM environments at 20 m. The assessment took a more conservative view and used 100m and in sensitive areas took this to 250m.</p> <p>As part of the assessment why was EMC modelling of the electrified route as a 'transmitter' not undertaken?</p>	<p>A modelling assessment of EMC related to the operation of the electrified trains was not completed because the electric rolling stock details are not known at this time. This is documented in the EMI/EMF Baseline Conditions Report (Appendix J), Section 5.2.</p> <p>Generally speaking, the scope of the EMC assessment work carried out as part of the TPAP involved measurement of baseline EMI/EMF levels at various locations along the rail corridors and traction power facility sites in order to establish baseline conditions. In addition, EMI sensitive locations in the study area were identified and documented. Following this, a net effects analysis was completed to make a preliminary determination as to whether the proposed electrification infrastructure may result in adverse EMI/EMF effects. These results are summarized in detail in EMI/EMF Impact Assessment Report (Appendix J). Furthermore the baseline measurements will be reviewed and verified as part of the detailed design phase of the project in order to ensure/confirm that there will be no adverse EMI/EMF effects due to electrification and appropriate mitigation is implemented as required.</p> <p>Furthermore, several specific commitments are outlined in EPR Volume 5, Section 1.14, including the preparation and implementation of an Electromagnetic Compatibility (EMC) Control Plan, Frequency Management Plan, compliance with requirements as outlined in EN 50121, IEEE C63.12, AREMA Signalling and Control Manual 11.5.2, IEC 61000 and other relevant EMC standards by product manufacturers, and commitment to field testing and verification of overall ELF and RF emissions emanating from the GO electrified railway system as a whole (including emissions from the electrified tracks, OCS, TPFs, RRMF, and electric trains) to ensure EMFs are within the limits of applicable industry standards during the electrification commissioning phase. Refer to Volume 5, Section 1.14 for further detail.</p>
165		Appendix J1 - EMI / EMF Baseline Conditions Report - General	<p>The resultant figures measured in Appendix J – Part J1 are consistent with the ambient figures for Magnetic Flux Density (B) and in most instances are relatively low with the exception of those areas highlighted that would be expected to have a significantly higher value e.g. existing overhead power lines. Therefore the report findings are as expected and as such have no impact on the existing rail infrastructure or rolling stock.</p> <p>Why did the report not look at the EMC impact on the route as a 'transmitter' due to electrification?</p>	See response to comment #164.
166		Appendix J1 - EMI / EMF Baseline Conditions Report – Section 4.2 and Table 4-5	<p>In Section 4.2 it states the selection of 10.0 mG as a conservative number is based upon information from Table 4-5, however clarification is required because this discussion refers to measuring Resultant Flux Density, while the mentioned table is showing values for a different variable known as Magnetic Field Strength, to ensure consistency in the report. Can you please clarify?</p>	<p>Resultant Flux Density is the name for what is typically computed when using the hand-held ELF meter, which is what we used for our measurements. It refers to a value that could be computed from a mathematical equation, using the measured values of magnetic field strength in each of three vectors, X, Y, and Z. Magnetic Field Strength, as shown for the different household devices in the Table 4-5, is measured with a different device. However, it is also measured in milliguass (mG), which is why the two values are comparable.</p>
167		Appendix J2 – EMI / EMF Impact Assessment Report - General	<p>Appendix J provides results of EMI and its net effect following mitigation measures. Section 3 utilises the findings found in Appendix J –J1 (cut off figure of 10mG) and provides provisional mitigation measures which are summarised in Section 5. These are consistent with following standards and good engineering practice, which should be identified within the projects EMC</p>	See response to comment #164.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Control Plan once produced. Section 6 of the document provided the results of EMI background scans with in the RF spectrum which are existing ambient frequencies and levels. These are again consistent with what would be expected within the rail corridor and any mitigation required, and it would not be expected to be affected by the introduction of electrifying all of the routes if all mitigations identified are implemented.</p> <p>As part of the assessment why was EMC modelling of the electrified route as a 'transmitter' not undertaken?</p>	
168		Appendix J - EMI / EMF Assessment Report - General	<p>It is understood that the reports produced are focused on the existing EMI/EMF in the surrounding environment and these measurements and findings are a matter of fact. Based on the ambient readings, no impact on the existing railway has been identified and thus no impact is expected once electrification is in place. Going forward, focus is needed on the opposite, analyzing what impact the electrification will have on the surrounding environment, railway neighbours, the railway itself as a “transmitter”, and what mitigation measures will be required. It is expected that this will be undertaken in the next phase of this project. However, this undertaking is not a simple task, and it would be expected that some form of initial modelling is completed before hand to identify areas where the railway will generate high values.</p> <p>The results from this modelling will be used in the EMC Control Plan to identify in detail the mitigation measures required for the design and construction. In section 3 a number of sub sections state no EMI sensitive sites were identified. How can this statement be made without an assessment undertaken after modelling and post measurement of the route after electrification?</p>	<p>The measurements made refer not only to effects on the existing railway, but also indicate that the expected emissions after electrification should not exceed the emissions seen (and measured) for similar facilities across North America. The emissions from the railway itself, as a “transmitter” are subject to limits such as those found in CENELEC standards such as EN 50121-2, “Emission of the whole railway system to the outside world.” The measurement techniques for these measurements are specified in EN 50121-3- 1, “Rolling stock – Train and complete vehicle.” The measured emissions must fall inside these limits. Rather than modeling, measurements are the verification of this proper design and implementation. Extensive measurements, have already been made on similar properties, at areas such as traction power facilities, and these measurements provide estimates of the readings that should occur, again once electrification is in place assuming proper design and implementation. Baseline measurements taken at various points throughout the Electrification Study Area, as described in Appendix J, reflect pre-electrification readings. Post- implementation verification of these measurements will be carried out. In terms of the identification of EMI sensitive sites, the assessment identified facilities wherein items such as radar was being used, at a distance less than 100m. These sites are candidates for verification post-electrification, as described in Appendix J.</p>
169		Appendix J - EMI / EMF Assessment Report - General	<p>The reports focus on EMI/EMF, which are elements of EMC, however as part of the modelling further consideration needs to be taken on other EMC phenomena e.g. induced voltages both longitudinal and transfer (Psophometric).</p> <p>Why was other aspects of EMC not considered in more detail in the report?</p>	<p>See response to comment #164. Also see EPR Volume 5, Section 1.14 for commitments related to EMC.</p>
170		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	<p>The assessment does not consider the impacts from the current increase in diesel stock, prior to electrification in 10 years’ time - please explain why this is not considered?</p>	<p>Section 1.1 of the Air Quality Assessment Report provided the following explanation: “The scope of the GO Rail Network Electrification TPAP includes examining the potential environmental effects of building, operating and maintaining the electrified GO system... It is important to note that the scope of the Project does not include the new infrastructure required to provide increased GO service levels associated with Regional Express Rail such as track expansions, grade separations, etc. Rather, these aspects are currently being (or will be) designed and assessed as part of separate Metrolinx projects that are (or will be) subject to separate Environmental Assessments.”</p>
171		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	<p>The future worst-case diesel RER service scenario is not analysed in this report - please explain why this is not considered?</p>	<p>Future worst-case diesel RER service was analyzed, as the baseline against which electric RER service was compared. As described in Section 2.1.1.1 of the report, a future diesel RER scenarios was analyzed in which all the diesel locomotives are compliant with US EPA Tier 2 emission limits. A second scenario is being added in which they are compliant with Tier 4 emission limits. Computed annual emissions for these scenarios are shown in Table 3-1 of the report, and comparisons of them to Electric RER emissions are shown in Tables 3-3.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
172		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	No discussion on cumulative effects of the project on air quality – positive or negative is provided - please explain why this is not considered?	See response to item #130.
173		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	No discussion on potential health impacts from existing ambient air quality and pollution from the existing diesel rolling stock and / or possible improvements to health is given from electrification - please explain why this is not considered?	<p>A discussion of potential health impacts from existing ambient air quality and pollution from existing diesel rolling stock was provided in the Air Quality Baseline Conditions Report. Health impacts were discussed in terms of the potential for air pollutant levels to exceed health-based air quality thresholds. That discussion was based on analysis and review of data from air quality monitoring stations operated by the MOECC, Environment Canada and Metrolinx.</p> <p>Possible improvements to health were discussed in Section 3.1.1.4 of the Air Quality Impact Assessment Report, where it was concluded that “replacement of diesel locomotives with electric locomotives will not significantly change the baseline air quality levels...”</p>
174		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	Non-Metrolinx trains that will remain diesel-powered were excluded from the full electrification scenario as they were deemed outside of the project scope - - please explain why this is not considered?	For the purpose of calculating the impact of the project on emissions, it was unnecessary to consider the locomotives that will remain diesel-powered in the post-project condition. It is only necessary to consider the diesel locomotives that will be replaced by electric ones and calculate their pre-project and post-project emissions, so that the difference can be computed.
175		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	The assessment provides very limited discussion on construction and operational impacts from the associated infrastructure needed as part of the project - please explain the rationale for the high level discussions regarding construction impacts and whether there are plans to provide more detailed discussion on construction impacts at a later date?	The rationale for the approach taken with respect to construction impacts was alluded to in Section 4 of the report, which states the following: “...as the construction footprint at any given location will generally be modest in size (the TPS facilities will have a footprint of several 10s of metres on a side), the time period of significant dust generation potential is likely to be short at any one location.” The qualitative approach to construction impacts that is embodied in Sections 3.2, 4 and 5 of the Air Quality Impact Assessment report is consistent with the approach that has been taken on recent major transportation EA’s in Ontario.
176		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	No quantified project level air modelling assessment appears to have been undertaken, with results compared against, Provincial and Federal Ambient Air Quality Standards and the existing baseline. This would be particularly relevant for local impacts to City receptors. Please explain why quantified modelling was not undertaken and if you propose to undertake a quantified modelling as part of more detailed assessments?	Given that electrification will provide a beneficial effect on air quality, as it will avoid diesel emissions that would be generated under a diesel RER scenario, there is no need to assess whether the project will cause adverse effects that require mitigation. Therefore, it was considered unnecessary to undertake any model predictions of future air contaminant concentrations for comparison with air quality criteria. This allowed Metrolinx to focus its resources on the much more significant question of noise impacts and noise mitigation measures.
177		Appendix F - Air Quality Assessment Report: is composed of two parts	Some of the ambient air quality monitoring stations used for collection of baseline data, are considerable distances from the rail corridor in assessment. Please explain how these monitoring stations reflect the localised ambient air quality from the rail corridor and whether the project is	This topic was discussed in Section 3.3 of the Air Quality Baseline Conditions, where it was concluded that, in general, “the monitored concentrations may underestimate the worst-case concentrations [of certain contaminants] that could be observed within close

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	proposing to undertake any more specific ambient air quality monitoring, in proximity to the rail corridors in order to demonstrate the actual potential localised improvements in ambient air quality?	proximity of the rail corridors, but should otherwise be representative”. Section 3.3. went on to state that the data from the “urban” monitoring stations were “considered to be reasonably representative of the upper bound pollutant levels near any of the corridors.” The latter is considered to be true, because 5 out of 9 of the “urban” monitoring stations are within 500m of busy sections of the GO Transit network, and the remaining 4 are within 3km.
178		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	Is the project proposing to do any localised ambient air quality monitoring alongside the rail corridors within the City of Toronto boundaries?	No ambient air quality monitoring is proposed for the Electrification project. Metrolinx has previously undertaken localized air quality monitoring at three locations adjacent to the Kitchener rail corridor for the Georgetown South project. All three locations are within the City of Toronto boundaries. This information is available online at: http://www.metrolinx.com/en/projectsandprograms/transitexpansionprojects/gts.aspx
179		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	The ambient air quality data referenced in the baseline assessment is now dated – data collected is from 2009-2013. This data is considered outdated and may not accurately reflect the current situation alongside the rail corridors, especially given that the diesel rolling stock and road vehicle use has increased since this time. Why did the project not collect and use more recent data for use in the assessment? Are there proposals by the project, to update the assessment, using more recent data?	The assessment of Air Quality Baseline Conditions relied on data published by MOECC, Environment Canada and Metrolinx. The Metrolinx data included data for the year 2014. All other data did not include any data beyond 2013, as 2013 was the latest year for which data had been fully subjected to quality control, summarized and published. We disagree with the idea that the data are outdated and may underestimate more recent conditions, given that diesel rolling stock and road vehicle use has increased. Air quality monitoring data for the GTA have generally demonstrated either declining or flat trends in recent years, despite increases in road traffic, and on that basis, data for years prior to 2015 are considered more than adequate to represent existing air quality conditions. At present, there is no proposal to update the assessment.
180		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	Why does the air quality assessment focus on regional ambient air quality impacts, rather than localised ambient air quality? Given the nature and scale of the project, consideration of localised ambient air quality is relevant, particularly, to demonstrate improvements in ambient air quality.	As previously stated, electrification will provide a beneficial effect on air quality, as it will avoid diesel emissions that would be generated under a diesel RER scenario. As such, there is no need to assess whether the project will cause adverse effects that require mitigation. Therefore, it was considered unnecessary to undertake any model predictions of future air contaminant concentrations for comparison with air quality criteria. This allowed Metrolinx to focus its resources on the much more significant question of noise impacts and noise mitigation measures.
181		Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.	Greenhouse gas emission have not yet been estimated for the project for: <ul style="list-style-type: none">Annual emissions during the phase-in period of electrified rail;Initial increased service levels for the diesel rolling stock;Project construction; orIndirect contributions to emissions during operation and maintenance. Please explain why these are excluded and whether the project proposed to undertake more robust calculations of greenhouse gas emissions?	GHG emissions from the initial increased service levels for the diesel rolling stock were computed and are shown in Table 3-1 of the Air Quality Impact Assessment Report. Indirect contributions to the project’s GHG emissions during operation also were computed (i.e., the contribution from electricity generation) and are shown in Table 3-2 of the Air Quality Impact Assessment Report. Annual emissions during the phase-in period were not computed directly, as details of the phase-in are not currently available, but the upper bound of the phase-in emissions is represented by the diesel locomotive GHG emissions shown in Table 3-1 of the report. GHG emissions associated with project construction were not computed, as they are expected to be small in magnitude compared to the pre-project and post-project operational emissions shown in Tables 3-1 and 3-2.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
182		Appendix G - Noise and Vibration - General Comments	Why didn't the analysis consider the Ontario Ministry of the Environment, 2013 Environmental Noise Guidelines or the City of Toronto noise limits for receptors? What about night time limits? Will these be considered these during more detailed assessments?	<p>This assessment used the MOEE/GO TRANSIT Protocol for Noise and Vibration Assessment, dated January, 1995 and the Ontario Ministry of the Environment and Climate Change Publication NPC-300, dated 2013. The MOEE/GO Protocol is the standard for all Metrolinx noise and vibration assessments. This was used as the basis for the railway portion of the assessment. The NPC-300 guidelines were used to assess stationary sources, which in this case included transformers associated with the traction power facilities. The City of Toronto noise limits for receptors do not apply to this type of assessment. The Electrification Project Team has actively engaged the Ministry of the Environment and Climate Change as part of this undertaking and proposed assessment methodology. Copies of the Draft EPR, including the Noise and Vibration Impact Assessment Reports have been provided for their review/comment.</p> <p>Nighttime was assessed for sensitive receptors as described in the MOEE/GO Transit Protocol and the Ontario Ministry of the Environment, 2013 Environmental Noise Guidelines (where applicable).</p> <p>See response to Comment #194.</p>
183		Appendix G - Noise and Vibration - General Comments	Planned barriers were defined throughout the noise assessments as noise barriers that were identified/proposed as part of previously completed Metrolinx/GO Transit Environmental Assessment/TPAP studies. It is noted that not all of these barriers have been implemented, but they were included in the modelling. Furthermore, not all planned barriers have been evaluated for technical feasibility. Why did the modelling assessment consider barriers that have not been implemented? Does the noise consultant consider the modelling accurate when it includes these barriers? Are there proposals to update the noise modelling during detailed design?	<p>Existing barriers, or those planned for construction based on other noise studies, were included in the assessment in all modelled scenarios. It was assumed that the planned barriers would be constructed by the time the project is implemented. The feasibility of the planned barriers would have been determined as part of the noise studies that required them, and were not re-evaluated as part of this study.</p> <p>The operational, economical, and administrative feasibility of noise barriers may be evaluated by Metrolinx during the detailed design stage.</p>
184		Appendix G - Noise and Vibration - General Comments	For those areas where noise barriers are considered to be ineffective at managing the noise impacts, other solutions may be required for these areas. What other solutions for noise mitigation are proposed?	<p>To date, Metrolinx has not proposed alternative mitigation measures for noise. Going forward, for areas deemed not technically feasible to mitigate through barrier design, other possible methods that could be considered include the following:</p> <ol style="list-style-type: none">1. Changing speed limits in areas of concern, varying the exposure of passing trains on adjacent residence.2. Receptor-based mitigation. This may include upgrading building components at facades facing the rail line (smaller and thicker window construction and brick veneer walls) of individual houses or developments. If this was to be carried out, a contractual agreement between Metrolinx and the areas in question would be required.3. Limiting of horns. Increased grade separations in areas of concern (probably infeasible).4. Providing on-locomotive mitigation, to limit sound emissions from passing trains. <p>Similar to installation of barriers, each of these mitigation solutions comes with challenges, some very significant. Metrolinx will consider some of these, or other solutions at the detailed design phase in areas where it is deemed necessary.</p>
185		Appendix G - Noise and Vibration - General Comments	The scope of the study did not include a comprehensive analysis of the technical, operational, economical, or administrative feasibility of implementing noise mitigation measures. Why were these omitted and are there any plans to consider these during detailed assessments?	<p>The analysis of operational, economical, and administrative feasibility was not included in the scope of this assessment. The level of detail in this assessment did not allow for this</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				type of feasibility analysis. The operational, economical, and administrative feasibility may be evaluated by Metrolinx during the detailed design stage.
186		Appendix G - Noise and Vibration - General Comments	No discussion on cumulative effects of the project is provided - please explain why this is not considered?	<p>The assessment of noise and vibration impacts from rail project is prescribed by the 1995 MOEE / GO Transit Protocol.</p> <p>The Protocol does not require the inclusion of stationary sources with rail noise. Stationary sources associated with the project are evaluated using different evaluation parameters. Stationary sources are evaluated separately under the MOECC's NPC-300.</p> <p>Other noise sources such as industry and roadways, contributing to ambient noise, are regulated separately. The protocol does not require assessment of industry and roadway noise with the project noise.</p>
187		Appendix G - Noise and Vibration - General Comments	Public comments for the project included concerns regarding noise and vibration levels from increased service, especially for those living adjacent to the tracks particularly for homes in the Lakeshore East Corridor. In many cases, the noise and vibration mitigation options are not considered in a sufficient level of detail. The exact location and length of the noise mitigation has not been determined and potential solutions for non-technically feasible noise walls not considered further. Please explain why mitigation has not been addressed in further detail particularly in corridors where substantial noise and vibration effects are predicted to occur.	<p>At this point in the design, detailed mitigation design could not be conducted. The length for all proposed noise barriers is currently included in the Table sections (e.g., Table 5a). All mitigation barriers are 5 m in height. The tables will be updated to include the lengths and heights of existing barriers.</p> <p>The exact location and lengths of noise barriers will be established through an optimization study after the TPAP is approved. Optimization will consider location, base and top elevation, and topography relative to surrounding receptors. Typically, mitigation is limited to the right-of-way, which limits mitigation to noise barriers.</p> <p>Receptor-based mitigation (such as upgraded windows) can achieve the indoor sound levels, but does not address sound at outdoor living areas. Sound at outdoor living areas can only be addressed with barriers or substantial on-source mitigation.</p> <p>Metrolinx has consulted with residents adjacent to the rail corridor, and is coordinating efforts with the Lakeshore East rail corridor expansion TPAP.</p>
188		Appendix G - Noise and Vibration - General Comments	The Noise and Vibration Impact Assessment conducted to date is considered a preliminary evaluation and the report suggests that mitigation will be refined during detailed design. When is the mitigation going to be considered? What is the approach proposed to mitigate impacts not considered technically feasible via barriers in the report?	See response to item #187
189		Appendix G - Noise and Vibration - General Comments	In certain cases, the predicted change in vibration level between existing conditions and future conditions (Electric RER scenario) was found to be in excess of the 25% increase threshold set out in the draft GO Transit/Ministry of the Environment and Climate Change (MOECC) Vibration Protocol, at the identified receptors. However, the feasibility and details of vibration mitigation have not been fully investigated at applicable areas along the corridor to help reduce vibration from the GO service. Please describe how the project will mitigate vibration impacts at receptors?	The feasibility of vibration mitigation has not been investigated at this point in the design. Vibration mitigation will be fully investigated at the detailed design stage. At this preliminary stage, the following potential vibration mitigation options have been suggested: ballast mats, under sleeper pads or resilient fixation. During the detailed design stage, other options may be considered.
190		Appendix G - Noise and Vibration - General Comments	Within Section 3.4.1.1 - Along the Rail corridors - in each of the Corridor appendices, the following is stated "Ambient noise from road traffic and other background noise sources including industry was assumed to be negligible compared to existing rail traffic noise at most receptors near the rail corridor, and not a significant factor in determining the desirable sound level objective. Therefore, ambient noise was not assessed". Does the project mean that ambient noise from road traffic and industries is considered negligible? Or that ambient noise from industries was considered negligible, compared to road traffic was considered negligible, so industrial noise	<p>The inclusion of ambient noise in the assessment decreases the requirements for noise mitigation as a result of this project, and was therefore only included when it was expected to dominate the acoustic environment. The project is assessed as a difference between the pre-project noise (existing rail activity plus ambient) and the post-project noise (future rail activity plus ambient).</p> <p>Since sound is added logarithmically, if the ambient levels are elevated, a smaller difference between pre- and post-project noise will be predicted. If the difference between</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			was excluded from the assessment? Was road traffic noise considered within the assessments? Noise levels are cumulative, so this logic would not apply.	<p>the pre-project noise and the post-project noise is greater than 5 dB, mitigation is investigated.</p> <p>Noise from existing industry was excluded from this assessment as it is difficult to quantify. This was a conservative approach, as the inclusion of industry would only decrease the mitigation requirements as a result of the project.</p> <p>Noise from roadways was only considered in select areas where road noise (i.e., the Gardiner Express or the Highway 401) ran parallel to the railway and would dominate the acoustic environment.</p>
191		Appendix G - Noise and Vibration - General Comments	Receptors analysed in the baseline are not consistent with the receptors discussed in the assessment -please explain why this is? Typically, the noise receptors identified for baseline would be the same as those considered in the impact assessment.	<p>The selection and assessment of receptors is done in a two stage process.</p> <p>Assessing the noise impacts of all receptors along the corridor</p> <p>Investigating the technical feasibility of mitigation, only for those receptors that had a noise impact that was deemed “Significant” (ie larger than a 5 dB increase).</p> <p>All receptors were identified using publicly available address point databases or through visual identification using publicly available satellite aerial images. The adjusted noise impacts for each of these receptors were calculated within our analysis but, for presentation purposes, only represented receptors are detailed within our reports. The adjusted noise impacts of the representative receptors are included in Table 3.</p> <p>For only those receptors that a noise impact of “Significant” or higher (ie. Larger than a 5 dB increase), the technical feasibility of barrier mitigation was investigated. The technical feasibility assessment of only those representative receptors that had a noise impact higher than 5 dB is presented in Table 6b and 7b.</p>
192		Appendix G - Noise and Vibration - General Comments	Why is there a different number of baseline and impact assessment receptors identified in each corridor? What is the basis for the section of baseline and impact receptors along each corridor?	<p>The selection and assessment of receptors is done in a two stage process.</p> <ol style="list-style-type: none">1. Assessing the noise impacts of all receptors along the corridor2. Investigating the technical feasibility of mitigation, only for those receptors that had a noise impact that was deemed “Significant” (ie larger than a 5 dB increase). <p>All receptors were identified using publicly available address point databases or through visual identification using publicly available satellite aerial images. The adjusted noise impacts for each of these receptors were calculated within our analysis but, for presentation purposes, only represented receptors are detailed within our reports. The adjusted noise impacts of the representative receptors are included in Table 3.</p> <p>For only those receptors that a noise impact of “Significant” or higher (ie. Larger than a 5 dB increase), the technical feasibility of barrier mitigation was investigated. The technical feasibility assessment of only those representative receptors that had a noise impact higher than 5 dB is presented in Table 6b and 7b.</p>
193		Appendix G - Noise and Vibration - General Comments	What is the methodology used for baseline noise monitoring? Over what duration did baseline noise monitoring take place? Was the same baseline noise monitoring methodology i.e. duration, locations, daytime and night-time considered for each rail corridor? How did the project determine which receptors to undertake noise monitoring at?	<p>There was no baseline monitoring completed for this assessment. To obtain pre-project noise, modelling of current rail activities (pass bys and idling) was completed. Modelling was determined to be a superior method to monitoring, to ensure that worst-case scenario (i.e. max GO, passenger train and freight train) is properly represented, which may be difficult to capture during a monitoring period. The 1995 MOEE / GO Transit Protocol is based on a 16-hour daytime equivalent sound level and an 8-hour nighttime equivalent sound level. To properly monitor for this assessment, multiple days of 16-hour</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p>measurements and multiple nights of 8-hour measurements would be required at several locations along the rail corridors. In most locations, the measurements would be highly contaminated from the surrounding environment. If the pre-project noise is artificially high, then the difference between the pre-project and post-project noise is artificially smaller and less conservative.</p> <p>As the impact assessment is an evaluation of change between the pre-project and post-project scenarios, it is best to use one method (i.e., modelling) to evaluate both scenarios to ensure consistency and properly capture the change. Any biases present in the model is irrelevant, as it is present in both the pre-project and post-project noise levels and disappears when evaluating the change between the two scenarios.</p>
194		Appendix G - Noise and Vibration - General Comments	Is the project considering night-time construction works? If yes, please describe these activities and how noise impacts will be managed during these works?	Night-time construction is unavoidable, as the rail must be closed for certain activities, and cannot be closed during daytime hours. Details regarding exact construction activities are not available at this time. They will be provided to City and community once available, along with details of how impacts will be managed. Wherever possible, construction will occur during daytime hours.
195		Appendix G - Noise and Vibration - General Comments	For a project of this scale and nature, a more detailed construction impact assessment would be considered appropriate, incorporating day and night construction impacts and assessment of impacts from all associated infrastructure. Please explain why the broad brush construction impact analysis approach was taken and if more detailed construction impact assessment will be considered?	<p>At this stage in the design, detailed construction plans were not available. Therefore, a detailed construction assessment could not be completed.</p> <p>Once details regarding the construction are available, a detailed construction assessment will be completed.</p>
196		Appendix F and G - Air Quality, Noise and Vibration - General Comments	The assessment as provided, does not take due consideration of the potential health impacts to those living or working adjacent to the construction works. Whilst only temporary, there could still be health impacts, from increased, dust, noise, vibration and stress associated with the disturbance construction works will cause. Please clarify if health impacts will be assessed?	<p>Health impacts are not typically addressed for environmental noise and vibration, and were not addressed in this assessment. Health impacts from environmental noise and vibration are not well quantified and lack regulation. In place of this, guidelines are typically set around public annoyance. The exception to this is noise causing hearing damage, for which a regulatory framework exists. At typical receptor distances, the noise levels from construction are expected to be well below the threshold for hearing damage.</p> <p>The tables in Section 11 of EPR Volume 3 summarize the list of mitigation measures to be implemented during construction including those related to noise, vibration, dust, etc.</p>
197		Appendix G - Noise and Vibration - General Comments	Health impacts from operational noise and vibration are not discussed or assessed. Please clarify if health impacts will be assessed?	Health impacts are not typically addressed for environmental noise and vibration, and were not addressed in this assessment. Health impacts from environmental noise and vibration are not well quantified and lack regulation. In place of this, guidelines are typically set around public annoyance. The exception to this is noise causing hearing damage, for which a regulatory framework exists. At typical receptor distances, the noise levels from operational noise are expected to be well below the threshold for hearing damage.
198		Appendix G - Noise and Vibration - General Comments	There will be operational impacts associated with some of the associated infrastructure proposed for the project, particularly electricity generating infrastructure which has been considered in a cursory level of detail. Will it be considered more explicitly during further detailed assessment?	The operational noise impacts of the infrastructure associated with the project will not be addressed further as part of this assessment. However, any non-rail infrastructure (e.g. transformer stations, passenger stations, etc) that emits noise must ultimately be considered under the existing Ministry of the Environment and Climate Change regulatory framework.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
199		Appendix G - Noise and Vibration - General Comments	Ground-bourne noise, which is often a sensitive issue around rail facilities was not assessed in the reports. Is the project going to assess ground-bourne noise?	<p>When <i>Ground-borne</i> is referred to, we assume that the comment is referring to noise that is radiated inside of a structure as a result of ground-borne vibration exciting the structure.</p> <p>Vibration levels are assessed in the ground, at a point outside of the structure. Generally speaking, if the vibration limits are complied with at this location, it is expected that any vibration of the structure which could result in radiated noise inside of the structure would be limited.</p> <p>Further assessment would require details regarding the construction of each receiving structure, and ultimately is a highly detailed study. That level of detail is not reasonable to consider for this sort of assessment.</p>
200		Appendix G - Noise and Vibration Modelling Reports: including G6 Lakeside East Corridor	Mitigation measures were investigated for each of the 59 receptor locations where a Significant Adjusted Noise Impact occurred, in accordance with the MOEE/GO Protocol. The report notes that of the 47 noise barriers investigated, 12 barriers were not able to adequately reduce the noise with a practical barrier height. These barriers were deemed technically infeasible. The remaining 36 barriers were deemed feasible. However, this is not consistent with what is shown in table 7a of the Appendix of the G6 Report. Please clarify which results are correct.	The report text is accurate. A formula appears to be faulty in the table. This will be updated in the Final EPR.
201		Appendix G - Noise and Vibration Modelling Reports: including G6 Lakeside East Corridor	Mitigation measures were investigated for 36 receptor locations where a Significant Adjusted Noise Impact occurred. The report notes that of the 32 noise barriers investigated, six barriers were deemed infeasible and 26 barriers were deemed technically feasible. However, this is not consistent with what is shown in table 7b of the Appendix of the Report. There appear to be potential errors in the report. The report notes that at the detailed design stage, optimization of the noise barrier length should be investigated. Please clarify which results are correct.	The report text is accurate. A formula appears to be faulty in the table. This will be updated as part of the next round of edits.
202		Appendix G - Noise and Vibration - General Comments	Why are vibration sensitive uses in the project vicinity not evaluated given that vibration impacts are anticipated during the construction and operational phases? Will this be considered in future assessments?	<p>Vibration sensitive uses are evaluated for construction and operational phases.</p> <p>For operational vibration, the worst-case receptors are evaluated to determine if there is a predicted increase in vibration of 25% or greater. If the operational vibration is predicted to increase by 25% or more, mitigation measures will be investigated.</p> <p>For construction vibration, setback distances where vibration impacts are anticipated were evaluated. As there are no details currently available regarding construction activities, an assessment at specific vibration sensitive receptors could not be conducted. This will be evaluated in more detail when more information is available.</p>
203		General Comments	All work proposed within the City of Toronto's boundaries must be coordinated with the City of Toronto's Capital Works Program. In areas such as USRC, coordination with the City is critical given the work proposed in the area over the next 10 years (i.e. the Gardiner, Waterfront Revitalization and First Guf). Coordination of proposed works should be begin before the completion of the Electrification EA.	<p>Metrolinx will continue working with the City of Toronto and other stakeholders including Waterfront Toronto and TRCA to identify design solutions that align with the strategic direction outlined in the various City building initiatives.</p> <p>We intend to have further discussions with City staff as part of upcoming Technical Advisory Committee meetings for the project.</p>
204		General Comments	It is critcal that the City of Toronto is closedly involved through out the detailed design phase of this electrification project in order to mitigate the impacts that will likely occur to our infrastructure as a result of electrification. It is also imperative that a Master Agreement between the City and Metrolinx be executed in order to delineate our respective roles and responsibilites particularly on matters such as maintenace	Acknowledged. Metrolinx will continue to work with the City during detailed design. Further review and discussion regarding existing bridge maintenance agreements will be needed with the City during detailed design.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
205		Clarification on Vegetation Clearing Zone	<ol style="list-style-type: none">1. Could any vegetation be included within the 2m area (in between 5m and 7m from centreline of the outermost tracks)?2. If any vegetation is allowed within the above zone, how tall can they be?3. Please comment on "The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final OCS design."4. Is the Vegetation Clearing Zone available for UP Express portion where TPAP has been completed?	<ol style="list-style-type: none">1. No vegetation is allowed within the vegetation clearing zone as outlined in the EPR. Any vegetation will be cleared/mowed to ground level on a periodic basis. Nothing can be planted within the vegetation clearing zone.2. See response to #1 above.3. This is design contingent and means that the contractor will look for opportunities to reduce the 7m zone based on final design where and if possible.4. As summarized in the UP Express Electrification EPR (2014), Chapter 6, Table 6-25, the following mitigation measures/commitments were identified with respect to vegetation removals:<ul style="list-style-type: none">• Prepare a Restoration and Enhancement Plan• Vegetation clearing zones and vegetation retention zones will be delineated in Contract documents.• Adhere to relevant guidelines and OPSS for clearing and grubbing, site preparation and tree protection• Erect and maintain a temporary fence for tree protection• Time pruning of trees outside of Spring• Metrolinx will consider developing a restoration plan as part of the detailed design phase that entails vegetation planting at other viable locations in the vicinity of the corridor to offset vegetation loss to the extent possible.<p>With respect to the commitment: “<i>Vegetation clearing zones and vegetation retention zones will be delineated in Contract documents</i>”, through the work completed as part of the current GO Rail Network Electrification TPAP (and as documented in the Draft EPR), it has been determined that the vegetation clearing zone is a 7m zone that entails vegetation removals within the area encompassed by the overhead contact system/2 X 25 kV feeders (5m zone) plus an additional 2 metre offset area on either side of the OCS components/2 X 25 kV feeders. The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final OCS design. See response to item #143 for additional detail.</p><p>In addition, as outlined in response #230, Metrolinx will develop and implement a Tree/Vegetation Compensation Protocol to mitigate vegetation/tree loss.</p>
206		Protective Barriers	Is there flexibility on using different protective barriers for ped-cyclists bridges over rail corridors which would be electrified. The above is related to the urban design components or bridge architecture allowed for ped-cyclists bridge structures.	The requirement for barriers is that they be 2 meters high, solid in construction and 3 meters past the OCS wires and extend 5 meters past the centerline of the electrified tracks. The materials used to achieve this are variable. See response to item #14.
207		Active Transportation Facilities	Provide details of construction mechanism of active transportation facilities (such as multi-use trails) beside rail corridors which would be electrified.	See response to item #35. Any construction work that will effect an active transportation facility will be protected during construction by an appropriate protection measure such as construction fencing or hoarding.
208		Vol 1 pg xxxv Bridge Modifications	Rail over road minimum bridge clearance requirements should be included so that when providing a new bridge, it is brought up to vehicle clearance specs. - please confirm that Vol 5 pg 7 covers this	Volume 5 (pg. 7) currently states “When developing plans for new or expanded infrastructure, Metrolinx will coordinate with municipal staff to ensure infrastructure is constructed to meet municipal requirements to the greatest extent possible”

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				No rail-road grade separations are proposed for the electrification project. Future grade separations will be carried out in consultation with the City under separate TPAPs.
209		Vol 1 pg 8 - list of appendices	No mention of traffic impact studies or construction mitigation plans - is that contained in Appendix U? - please confirm that Vol 5 pg 22 covers this	Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.
210		Vol 1 pg 30 - key assumptions	items 1 and 2 above - please confirm that Vol 5 pg 7 covers this	Metrolinx requests clarification on the question/comment in order to formulate a response.
211		Vol 1 pg 135 - section 3.9.4 last paragraph	Property impacts occurring outside the rail ROW which may entail additional EA or other studies should be carried out by Mx and not the municipality	See response to comment #9.
212		Vol 1	A property acquisition plan to 1st notify potentially affected land owners of pending property acquisition should be part of the planning process	Metrolinx has already approached affected property owners at TPF locations. There are currently no other planned/pending acquisitions related to the electrification undertaking.
213		Vol 1	An access approval plan to consider municipal access guidelines for power facilities and new stations	Metrolinx requires clarification of the question/comment from the City in order to formulate a response.
214		Vol 3 pg ii - Impact Assessment	Traffic impacts (and construction management plans) are not mentioned	See response to comment #209
215		Vol 3 - Table 11-1 pg 1176	Project Component - construction activities - no mention of traffic impact activity or mitigation	See response to comment #209
216		Vol 3 - Table 11-1 - pg 1183 & pg 1188	Project Component - Construct Modifications to Bridges - traffic management plan must be studied	See response to comment #209
217		Vol 3 - Table 11-1 - pg 1184 & pg 1188	Project component - Construction of access roads for traction power facilities - vehicle access location (Municipal approvals) and property acquisition are project activities that are not listed	The purpose of table 11-1 is to summarize the natural environmental mitigation measures associated with the project. As such, the mitigation measures listed beside construction of access roads for TPF consist of mitigation measures required to mitigate natural environmental effects as a result of this project activity. Property acquisition is not a natural environmental effect.
218		Vol 3 - Table 11-1 - pg 1195	Dunn and Dowling bridges - no further work indicated - are either of these bridges going to be converted back to roads?	<p>It is our understanding that Dunn is and will continue to be a roadway bridge. Dowling was a roadway bridge and the City replaced it circa 2015 with a modular truss pedestrian bridge, and intends to maintain the crossing as a pedestrian bridge.</p> <p>The detailed assessment of environmental impacts and public/stakeholder consultation related to modifications to Dunn, Dowling, Jameson, Dufferin Bridges will be carried out (as required) as part of an Addendum to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design.</p>
219		Vol 4 - pg xxiv - Consultation Strategy	integration with large city studies, like the St. Clair TMP should also be included	As part of the public meetings held for the GO Rail Network Electrification TPAP, Metrolinx coordinated the meetings held in January/February 2016 with the City of Toronto and in some cases held joint public meetings. Notwithstanding this, the scope of the consultation / stakeholder outreach program for the GO Rail Network Electrification TPAP was focused

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				on consulting the public and stakeholders about the proposed electrification project and satisfying TPAP requirements and was not intended to consult on other projects.
220		N/A	No comments at this time	Acknowledged.
221		N/A	Being a specialist on Automated and Autonomous vehicles, I don't have anything to add to what was presented. At the moment, AVs can materialize in many number of ways and I cannot comment on how the electrification plan can be or will impact(ed) automated vehicles	Acknowledged.
222		N/A	I have reviewed the material in greater detail and as no traffic, parking and loading assessments are needed for the Go Rail Network Electrification Project, Traffic Planning – North York Districts does not have any comments.	Acknowledged.
223		N/A	The electrification project has no real Traffic Operations impacts so I have no comments at this time.	Acknowledged.
224		General	More information required on how the Site Preparation and Construction work associated with Traction Power Facilities will impact existing traffic conditions.	See response to comment #209
225		General	The stormwater management and associated mitigation measures should be developed to a higher level of detail to confirm any additional property requirements, easements and required upgrades to City infrastructure.	The scope of the Preliminary SWM Assessment undertaken as part of the TPAP is an initial assessment based on the conceptual Traction Power Facility plans available at the time of the TPAP. As stated in the EPR and Preliminary SWM Assessment Report (Appendix K), further more detailed SWM analyses and study will be completed during detailed design. Known/anticipated property requirements are outlined in Volume 1 Section 3.7
226		General	For any construction activities associated with City owned bridges or bridges that overpass City roads, more information is required on the impact to existing traffic operations. Will lane closures be required?	See response to comment #209. Partial lane closures may be needed during construction however details will be determined during final design and traffic management plans will be developed at that time.
227		General	In the cases where heavy vehicles are required for the transportation of gantry structures to sites, pre determined routes should be coordinated with the City.	Acknowledged. Details will be determined during final design and traffic management plans will be developed at that time.
Parks, Forestry & Recreation				
228		General - Coordination between Electrification and RER	Consult and coordinate with other MX teams that are working on RER in order to fully understand the many studies and masterplans and City work that is planned in the areas alongside these rails. For example, in Appendix E1, 4.1.1.2.1 Planned Land Use in the USRC, you note two Secondary plans that will be impacted by this project. However, the RER team for USRC has noted at least 10 different precinct plans, master plans and EA for land in this corridor, including the Gardiner East and Lake Shore Blvd East Reconfiguration EA and the Don Landing Re-design. Work must be coordinated between RER and Electrification groups.	Ongoing coordination between Metrolinx teams working on RER related projects is occurring. Due to the varied scopes of work and project scopes, the analyses presented in the supporting technical reports will not be exactly the same. Notwithstanding this, the land use team will review the available background information in the area of USRC and update the Land Use reports for the Electrification project if required.
229		General - Coordination between Electrification and RER (General and Land Use and Socio-Economic Impact	Many of the RER expansion EPRs (specifically URSC and LSE, as well as the UP express along the Kitchener line) require new retaining walls and/or noise walls. Can the OCS towers be integrated into the new walls required due to RER track expansion? Please coordinate efforts with that team and explore this option. If this possibility has not been explored, explain why not.	Metrolinx will certainly look for opportunities to minimize the footprint of our transit expansion infrastructure where possible. This includes looking for opportunities to integrate OCS infrastructure with other infrastructure such as retaining walls and noise walls. These opportunities will be reviewed for economic and technical feasibility.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Assessment Report Appendix E2)		
230		General - Impact to Parks	Provide a master map that shows all impacts, including Tap/TPS stations, SWS, Feeder Routes, retaining walls, vegetation clearance zones and also includes features such as park and community facility names. See below (starting with comment 11) for lists of parks in all corridors. These must be acknowledged, and impacts to them must be assessed.	<p>It is not feasible or practical to show all impacts and proposed infrastructure on one single map. The scope of the project is too large and complex. For this reason, the discussion of impacts, mitigation and associated mapping have been organized according to rail corridor (and TPF sites) within the Draft EPR as well as each supporting technical report (EPR Appendices).</p> <p>There are no anticipated land use impacts to parks as no property acquisition is anticipated to be required by Metrolinx to build the OCS along the corridors. Similarly, there are no TPFs proposed within parks. The presence of parks situated in the vicinity of the study area and potential visual effects was documented and mapped (based on readily available data) as part of the Visual Baseline Conditions/Impact Assessment Report contained in Appendix H. In response to this comment, Metrolinx obtained additional Parks data from the City of Toronto’s Open Data Website in order to augment the Land Use and Visual mapping contained in these respective reports/EPR. The Parks data received by Metrolinx has subsequently been incorporated into the revised Visual and Land Use Reports, including corridor mapping that will be included as Appendices H and E respectively to the Final EPR. The updated maps depict the additional Parks data obtained from the City of Toronto’s Open Data Website and the OCS/Vegetation Removal Zones along each corridor.</p> <p>Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.</p> <p>Regarding mitigation, as outlined below, as part of the Tree/Vegetation Compensation Protocol, if vegetation removals are required within conservation authority lands, applicable removal and restoration requirements will be followed.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from the ROW e.g reuse/recycling options.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<i>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</i>
231		General - Impact to Parks	On all maps, please label all park land that the railroads abut. This should be as easy as labelling all roadways.	See response to comment #230.
232		General (with Barrie as example, Appendix R6) Possible Community Benefits	On Barrie line, north of Lawrence, is there room for a trail beside the rail? In areas where MX has excess land, MX should consider improving the public realm by working with City to provide more multi-use trails along rail corridors.	<p>Suggestion is acknowledged, however exploring trail opportunities is not part of the scope of the GO Rail Network Electrification TPAP project.</p> <p>Metrolinx is working with City staff for the expansion of the West Toronto Railpath, and open to discussing other appropriate opportunities with the City.</p>
233		General (with LSW as example, Draft EPR Volume 3, Section 4.10) Replacement and modifications to bridges	Replacement of and changes to bridges will result in impacts to parks users trying to access the Waterfront along LSW and LSE, and to parks on all other lines. MX must ensure that construction staging and timing provide the minimum impact to park users, that there are alternative routes provided during construction and that the alternative routes are properly signed.	<p>Metrolinx will coordinate with Municipalities, as appropriate, to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid/minimize interferences to traffic to the extent possible.</p> <p>Also see response to comment #209</p>
234		General - Land Use Impact Zones (Appendix E and Appendix R - all)	<p>Provide the definition of sensitive use that MX is using that designates only child care centres, schools, long term care centres and hospitals as sensitive use. What about Community Centres, parks and permanent residential housing? What distance from a rail corridor is considered too close, and what criteria or designation determines this number?</p> <p>What plans does MX have to mitigate the impact to these sensitive uses?</p>	<p>For the purposes of the Land Use assessment study for the Electrification project, the term 'sensitive receptor' is defined in the Land Use and Socio-Economic Baseline Report Section 3.2 (Appendix E1) as: "child care centres, schools, long term care centres, and hospitals." The term 'sensitive receptor' is defined by various policies, including the Provincial Policy Statement (PPS). The PPS defines 'sensitive land uses' for the purposes of assessing land use planning and development projects under The Planning Act.</p> <p>Further, 'contaminant discharges generated by a nearby major facility' are not anticipated or included as part of the electrification project works.</p> <p>The Land Use assessment for the Electrification TPAP focused on the potential effects to sensitive land uses as defined above in order to avoid overlap with the sensitive receptors reviewed by other disciplines. The present definition helps streamline the assessment while still avoiding gaps in the assessment process. Additional information pertaining to sensitive receptors and the direct and indirect impacts to all land-uses as defined by the PPS can be found in the: Natural Environmental Assessment Report (Appendix A), Noise and Vibration Modelling Reports (Appendix G), and the Visual Assessment Report (AppendixH),</p> <p>Furthermore, the Noise and Vibration Assessment Reports contained in Appendix G as well as the Visual Assessment Report contained in Appendix H consider effects related to noise, vibration and visual on residences in the vicinity of the rail corridors and traction power facilities in detail. Therefore, this same assessment of effects on nearby residences does not need to be duplicated in the Land Use Assessment Report.</p> <p>Various mitigation measures have been proposed to minimize adverse visual effects, noise/vibration effects where required – these are detailed throughout EPR Volume 3 and summarized in Tables 11-7 and 11-8 of Volume 3.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				In addition, as described in Volume 1 Section 3.4 including Table 3-1, the process followed to identify potential TPF sites was based on avoiding residential areas to the greatest extent possible.
235		Vegetation Clearing Zones and Compensation (Natural Environment Impact Assessment Report - Appendix A2 - general and page 36)	Can MX provide an update on the Compensation Protocol negotiations? Will the compensation protocol take into consideration the removal of vegetation from parkland, i.e. what will be the rate of compensation for tree removal, and other vegetation removal, from parkland. What is the timing associated with compensation, i.e. is there a time limit to fulfill compensation? What type of consultation with COT, locals and other stakeholders will there be regarding the locations for compensation planting?	Metrolinx is developing a methodology to compensate for trees located within Metrolinx's property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan. Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.
236		Vegetation Clearing Zones and Compensation (Land Use and Socio-Economic Impact Assessment Report , Appendix E2, page 1)	"Scope of project does not include new infrastructure required for increased GO service associated with RER." If RER is being built in 2018 in some locations, why does this EPR not provide for it?	The intent of this sentence is to clarify for the reader that the assessment of impacts related to track expansion, grade separations, etc. are not part of the scope of the GO Rail Network Electrification TPAP and will be/are being assessed under other Metrolinx TPAPs.
237		Vegetation Clearing Zones and Compensation (Land Use and Socio-Economic Impact Assessment Report, Appendix E2, page 6)	"While electrification infrastructure will generally be within the ROW, OCS structures and feeder lines in some instances require a vegetation clearance zone of 7 m from the centre of the outermost track on either side of the rail corridor. This vegetation clearance may affect land uses and socio-economic conditions, as discussed in this report." Why only in "some" instances? Please note which circumstances require the 7m clearance, and which do not.	The language regarding 'some instances' will be omitted to eliminate confusion. All instances along rail corridors to be electrified and the 2 X 25kV feeder routes entail the 7m vegetation clearing zone.
238		URSC - General and Land Use and Socio-Economic Impact Assessment Report (General and Appendix E2)	COT Parks adjacent to USRC - Lower Don Trail; Martin Goodman Trail; Corktown Common.	See response for comment #230 regarding parks.
239		URSC - General and Land Use and Socio-Economic Impact Assessment Report (General and Appendix E2)	New COT Parks planned adjacent to USRC: Don Landing; parkland and trail associated with the Gardiner East and Lake Shore Blvd East Reconfiguration EA. MX must coordinate with RER EA groups and other MX projects to mitigate the impact of Electrification on these planned projects.	See responses to comments #163 and #203
240		URSC - Corktown Common and Lower Don River Trail (General, Appendix R and Appendix E)	R1 does not note Corktown Common. R1 does not include or note the Lower Don Trail or the Martin Goodman Trail on the map.	These features are included in the Land Use and Socio-Economic Baseline Report (Appendix E-1) in Section 4.1.1.1.1. Trail information and Park labels have been added to Mapping of Land Use Designations (Appendix R) and the Land Use and Socio- Economic Report (Appendix E).
241		URSC – Don Landing (General, Appendix R and Appendix E)	Consult plans for the Don Landing Re-design on the City of Toronto's PFR website. http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=b339cd2e50192410VgnVCM10000071d60f89RCRD&vgnextchannel=4afd1d90f2fac410VgnVCM10000071d60f89RCRD. Will electrification impact these plans?	Based on a cursory review of the concept sketches for Options A & B, neither option is anticipated to be affected by the location of the Don Yard PS (which is situated on the east side of the Don River). Further the OCS Impacts are limited entirely to the railway corridor. It is noted that in this segment the railway corridor is elevated above the area of the proposed Don Landing Re-Design, and therefore no land use impacts are anticipated.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
242		LSW - General and Land Use and Socio-Economic Impact Assessment Report (General, Appendix R and Appendix E)	COT Parks adjacent to LSW: Olympic Park, Isabella VALancy Crawford Park, Northern Linear Park, Fort York, Garrison Common, City Wide open space south of rail, Springhurst Parkette, Beaty Boulevard Parkette, Humber Marshes, Humber River Recreational Trail, City Wide Open space (in Mimico Creek Ravine) Grand Ave Park, Manchester Park, Whitlam Warehouse (PFR resource), Lamburnham Park, Municipal Park (near Brown's Line-Lakeshore Parkette), Enfield Park/ Maurice J Breen Park/Toronto Golf Club/Etobicoke Valley Park. Also impacted (by Canpa feeder line): Connorvale Park.	See Response for comment #230
243		LSW - Connorvale Park (Draft EPR Volume 3 , 4.6.3 Canpa 25kV9 (page 184) and other locations)	Related to the Canpa Feeder Route, the report states that "Work within the OCS Impact Zone may effect users of the park." Provide information about what the effect on users will be, and how it will be mitigated. When I referred to the other studies (Air Quality, Noise and Vibration, Visual, EMI/EMF) for detail on the effects and mitigation, there was no detailed information about this park or the Canpa line. For this park, and all parks along the corridors, we will need a clear assessment of what the impact will be, and how it will be mitigated.	Reference to Connervale Park will be added to the Land Use Impact Assessment Report (Appendix E), the Visual Impact Assessment Report (Appendix H), as well as Volume 3 as well as an assessment of potential effects as appropriate.
244		Kitchener - General and Land Use and Socio-Economic Impact Assessment Report (General, Appendix R and Appendix E)	COT Parks adjacent to Kitchener - no parks listed for impact. Begins at 427 (Mississauga) therefore no impact to parks in City of Toronto. Area in Toronto already assessed during UP express process.	Comment noted.
245		Barrie - General and Land Use and Socio-Economic Impact Assessment Report (General, Appendix R and Appendix E)	COT Parks adjacent to Barrie: Toronto French School backyard, MacGregor Playground, Erwin Kirkhahn Park, Campbell Ave Park, Davenport Village Park, City Wide open space (s side Davenport rd. at EarlsCourt), Toronto Hydro Green Space, St Clair Gardens, City wide open space (at Rogers rd.), Bert Robinson Park, Eglinton Gilbert Parkette, Kay Gardner Beltline Trail, North Park, Mt Sinai Memorial Park, Downsview Park, Finch Corridor Trail (COT ends at Steeles on BR-19). Future parks planned along Barrie line: Phase 2 of the West Toronto Railpath (At the Junction of Barrie and Kitchener lines at Sorauren Park and no frills, continuing south along Barrie/Kitchener/UP express line).	See response to comment #230
246		Barrie - parks (EPR Volume 3, 6.10.7 page 591)	This section notes only two parks adjacent to the railroad. See above for full list of parks.	See response to comment #230
247		Barrie - parks (EPR Volume 3, 6.10.7 page 591)	This section misnames Downsview Park Station and Downfield Park Station.	This will be corrected.
248		Barrie - General and Land Use and Socio-Economic Impact Assessment Report	New COT Parks planned adjacent to Barrie: Phase 2 of the West Toronto Railpath; Multi Use Trail beneath the Davenport Diamond. MX must coordinate with RER EA groups and other MX projects to mitigate the impact of Electrification on these planned projects.	Acknowledged. The need for coordination for the West Toronto Railpath has been included in the report.
249		Barrie - General and Land Use and Socio-Economic Impact Assessment Report (General, Appendix R and Appendix E)	Barrie - Mentions phase two of the WTR running along the eastern side, and that EA was recently approved. Recommends discussion with COT on effects and mitigations. We applaud that the Draft EPR recommends further discussion with COT on the phase 2 of the WTR.	We appreciate the support of the City of Toronto with regards to this approach.
250		Stouffville - General and Land Use and Socio-Economic Impact Assessment Report	COT Parks adjacent to Stouffville: for inclusion on all relevant maps, and for mitigation Corvette Park, Don Montgomery Recreation Centre, West Highland Creek Watercourse, Gatineau Hydro Corridor Trail, Lord Robert Woods, Jack Goodland Park, Scarborough Hydro Green Space,	See Response for comment #230

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		(General, Appendix R and Appendix E)	Arsandco Park, West Highland Creek intersection, Ellesmere Yard (buildign grounds), West Highland Creek City wide open space, Collingwood park, City wide open space at Sheppard ave East, Havendale Park, Finch Hydro, City wide open space at McNicoll.	
251		LSE - General and Land Use and Socio-Economic Impact Assessment Report (General, Appendix R and Appendix E)	LSE - Jimmie Simpson Park; Bruce Mackey Park; Gerrard Carlaw Park and Traffic Island; The Rail Garden and Monarch Park Trail (trail goes under rail corridor); Williamson Park Ravine; Merrill Bridge Road Park; Wildwood Crescent Playground; Kildonan Park; Stephenson Park; East Toronto Athletic Field; Runnymede Lands; Kenworthy Park; Elward Mansion Parkette; Oakridge Park; Hollis-Kalmar Park and City Wide Open Space; Woodrow Park; Natal Park and Natal Park Trail; City Wide Open Space at National Street; Brimley Yard; McCowan District Park; Colonial Park; City Wide Open Space and Bellamy Park; City Wide Open Space at Markham Road and Bakerton Parkette; Scarboro Golf and Country Club; Galloway Park; Poplar Park; Grey Abbey Park; Grey Abbey Ravine; East Point Park and Trail; Highland Creek; Port Union Waterfront Park; Waterfront Trail; Port Union Village Common Park; Adam's Creek Ravine; Rouge Park	See Response for comment #230
252		Vegetation Clearing Zones and Compensation (Appendix N - all)	It is difficult to visually assess the impact of the Vegetation Clearing Zones, as the yellow hatch obscures the aerial image. Please make the hatch much lighter.	The maps will be reviewed and enhanced if possible as part of finalizing the EPR, however it should be noted that the scope of the project presents challenges from a mapping standpoint when it comes to showing aerial imagery details.
253		Vegetation Clearing Zones and Compensation (Appendix N - all)	Another way these maps could be helpful is if they had the categories minor, fair or extensive removals attached to them. These categories were explained in Appendix A2 (page 23), but are not used on the maps. Cross referencing between Appendix A and Appendix N is necessary.	The categories of minor, fair or extensive as outlined in the Natural Sciences assessment to characterize tree/vegetation removals were not depicted on the mapping, however the ELC categories associated with these categories have been shown. It should be noted that the assessment of the extent of vegetation/tree removals is considered the first step (as outlined in the EPR and Natural Environment Impact Assessment Report) and more detailed tree inventories will need to be undertaken during detailed design.
254		Vegetation Clearing Zones and Compensation (Natural Environment Impact Assessment Report - Appendix A2 - page 33)	When trees are removed from category "Residential land (CVR)" please provide an assessment of the noise impact, design impact, quality of life impact, etc. to the parkland by removing trees.	<p>Potential environmental impacts associated with vegetation removals are documented throughout Volume 3 of the EPR as well as in the Natural Environment Impact Assessment Report (Appendix A), Visual Impact Assessment Report (Appendix H), Land Use & Socio-economic Impact Assessment Report (Appendix E).</p> <p>Trees are often not a practical noise mitigation option in these situations due to lack of space and other factors (e.g., cost, time for trees to grow to full height). ISO standard (ISO-9613) provides the following guidance: “The foliage of trees and shrubs provides a small amount of attenuation, but only if it is sufficiently dense to completely block the view along the propagation path, i.e. when it is impossible to see a short distance through the foliage.” To provide 5 dB of reduction (what would classify a barrier as technically feasible) the foliage would need to be approximately 100 m deep.</p> <p>Visual impact mitigation strategies for OCS will be identified and incorporated into the detailed design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS.</p>
255		Vegetation Clearing Zones and Compensation (Natural Environment Impact	When trees are removed from category "Green Land (GLC)" there may be minor impact to the ecology, but there could be major impact to the design of the park. Please provide an assessment of the noise impact, design impact, quality of life impact, etc. to the parkland by removing trees.	See response to comment #254.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Assessment Report - Appendix A2 - general)		
256		(Missing)	There are no details on tree injuries in the documentation. The City of Toronto's tree and natural feature protection bylaws all require permits to injure trees (Street Tree, Private Tree, Parks and Ravine and Natural Feature Protection Bylaws- Municipal Codes 813 Article II and III, MC 608 Article VII, and MC 658). No details were provided on how injuries to trees will be identified and mitigated. This information needs to be documented in order to more accurately represent potential vegetation impacts resulting from this project.	Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.
257		(Missing)	<p>There is no reference to Neighbour owned trees within the documentation. There is mention of Boundary (shared or co-owned trees) but not neighbour trees. As neighbour owned trees and boundary trees may incur injuries or require removal due to proposed site works they need to be correctly identified. Urban Forestry has a procedure for processing injury and removal permits involving a neighbour, boundary (co-owned) or suspected boundary tree(s). The Boundary and Neighbour Tree procedure involves the issuance of two sets of letters. Urban Forestry provides letters to the applicant (i.e. Metrolinx) and neighbour(s) (i.e. co-owner or neighbour tree owners) identifying the proposed tree injuries and/or removals. The first letter is provided at the point in the permit process where it is clearly established that the subject tree(s) are neighbour, boundary or suspected boundary tree(s). Should the application be approved, notice of its approval is provided to the applicant and neighbour(s) 19 days prior to a permit being issued. When Urban Forestry issues a permit to injure or destroy a tree, we do so in accordance with criteria established based on the tree and natural feature protection bylaws and the interpretation of City Council's will in establishing these bylaws. The permit designates that the 'permitted' activity does not represent a violation of the tree bylaws. <u>It does not confer 'permission' to violate any other laws or to infringe upon or damage another person's property and it is up to the applicant (i.e. Metrolinx) to bear the responsibility of settling civil law</u></p> <p><u>property issues.</u> UF defines Neighbour trees as "A tree whose trunk is growing wholly on one property and that is the subject of an application to injure or destroy by an adjacent property owner". The definition of Boundary tree is "A tree, any part of whose trunk is growing across one or more property lines". Suspected boundary trees are: "A tree, any part of whose trunk appears to be growing across one or more property lines". Urban Forestry will treat any suspected boundary tree as such unless a current survey demonstrates otherwise. The survey must clearly plot the entire trunk of the tree from its point of growth away from the roots to its top where it branches out to limbs in relation to the property line. <u>Urban Forestry strongly recommends that Metrolinx begin consulting ASAP (i.e. very early in the planning process) with private property owners concerning any potential tree impacts that may result from the implementation of this project. UF encourages Metrolinx to work directly with private property owners to ensure that replacement trees are planted at these sites.</u></p>	<p>Refer to response to Item #256.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
258		Various (eg. Volume 3, pg. 66)	The documentation consistently references a 7m Vegetation Clearance Zone (VCZ) as the maximum removal zone and it is stated that during detailed design the zone may be reduced in certain areas where/if possible based on the final Overhead Contact System design. What is the criteria for reducing this zone? How has/will this criteria be determind? UF would like the VCZ reduced when trees and/or natural areas are going to be impacted in order to reduce the vegetation impacts (i.e. injuries and removals) resulting from this project.	See response to comment #205

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
259		Volume 1 (Figure 3-27 Typical Tree Removal Drawing)	<p>This figure outlines two scenarios i) When the 7m VCZ falls solely within Metrolinx's ROW and ii) When the 7m VCZ extends beyond Metrolinx's ROW into adjacent private properties. When it extends into adjacent private properties it is stated that the landowners' permission will be received before cutting trees. Pruning and tree removal needs to be done using good arboriculture practice (including beyond the 7m VCZ when necessary). The drawing detail should read that the vegetation removal/pruning will be done according to good arboricultural practice. UF defines Good Arboricultural Pracice as "Tree planting, maintenance and removal performed in accordance with the American National Standards ANSI A300 and best management practices identified by the International Society of Arboriculture to the satisfaction of the General Manager." It should also note that permits will be required prior to injuring or removing neighbour and/or boundary trees (when applicable). Trees located outside of the 7m VCZ may also require injury or removal permits. For example if a tree is located 1m outside of the 7m VCZ, the impact to the tree's canopy and root system may be so severe (as a result of the clearing) that the tree will not be able to withstand the injury and continue to survive well, thus requiring the tree to be removed. If the tree protection zone of trees located outside of the 7m VCZ is encroached upon but the tree is expected to survive well, removal isn't required but an injury permit will need to be obtained from UF. Because of the potential impacts to vegetation outside of the 7m VCZ, vegetation impacts may be greater than presently documented.</p>	<p>Refer to response to item #257.</p> <p>Metrolinx is developing a methodology to compensate for trees located within Metrolinx's property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p>
260		Various (eg. Volume 3, pg. 93)	<p>The "Metrolinx Compensation Protocol" is being proposed as a standardized protocol for vegetation removal and compensation, for treed and non-treed ecosystems. It is stated that it is currently under development. UF has attended meetings concerning the proposal but has not been given a draft to review. As City of Toronto staff do not have the authority to enter into an agreement that is contrary to the Toronto Municipal Code, private trees in Toronto will need to be handled in accordance with MC 813 Article III and MC 658 and City trees in accordance with MC 813 Article II and MC 608 Artcile VII. This includes requiring permits for tree injuries and removals and requiring replacement planting on site, in another suitable location or accepting a cash-in-lieu payment. All replacement tree planting/compensation that is required as a result of vegetation removed within the City of Toronto must be replaced within the City of Toronto. A blanket tree removal/injury permit (as suggested) would not be acceptable. An application form can be submitted along with a spreadsheet that includes many different address, however UF requires detailed information on each tree being proposed for injury and removal. Non-treed ecosystems within the City of Toronto can be compensated through stewardship; forest management; re-naturalization of forest systems; invasive species removal; creation of ecosystems – for example grass to meadow; and the enhancement of habitat for target animal and plant species. The target area would be right at the site, or closest to the area of loss as possible. If opportunities are not available directly at the site than neighbouring sites or other sites within the City of Toronto may be acceptable.</p>	<p>Acknowledged. Refer to response to Item #235 and #257.</p>
261		Volume 5 (1.3.3.2 Municipal Tree Permits pg. 40)	<p>The bylaw details and replacement tree ratios outlined are not accurate. UF bylaws regulate the injury and removal of trees on both City and privately owned land. The following tree and natural feature protection bylaws are currently in effect within the City of Toronto: 1. Trees on City Streets: All trees located on City streets are protected under MC 813, Article II, Trees on City Streets Bylaw. A permit from UF must be obtained prior to undertaking any work that may cause injury or require the removal of a tree protected under this bylaw. 2. Trees on Private Property: Privately owned trees that are at least 30cm in diameter as measured at 1.4m above ground level are regulated by MC 813, Article III, Private Tree Protection Bylaw. Trees of any diameter that were planted as a condition of a permit issued under this bylaw or a site plan agreement are also</p>	<p>This section of the EPR will be updated based on the information provided by City of Toronto.</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>protected. A permit from UF must be obtained prior to undertaking any work that may cause injury or require the removal of a tree protected under this bylaw.3.</p> <p><u>Ravine and Natural Feature Protection (RNFP):</u> A permit from UF must be obtained prior to undertaking any work that may cause injury or require the removal of any tree, the placing or dumping of fill or refuse, or altering the existing grade within ravine protected areas as outlined under MC 658, RNFP Bylaw. 4. <u>Trees in Parks:</u> All trees located in a City park are protected under MC 608, Article VII Parks Bylaw, Trees. A permit from UF must be obtained prior to undertaking any work that may cause injury or require the removal of a tree protected under this bylaw. Permits to remove trees are issued conditional on planting replacement trees.</p> <p>Standard UF replacement ratios are 1:1 for Parks and Street Trees and 3:1 for Private trees and RNFP trees. In RNFP protected areas, permits to injure trees are also issued conditional on planting replacement trees. The standard ratio is 1:1. These ratios are subject to change at UF's discretion.</p>	
262		Various (e.g. Volume 3, pg. lxxv)	<p>During the detailed design phase, Metrolinx has committed to developing Vegetation Management Plans (VMPs) for each corridor/feeder routes to mitigate the impacts related to vegetation/tree removals. These VMPs are to consist of: Tree Inventories, Tree Protection and the Tree/Vegetation Compensation Protocol. In order to ensure that UF is provided with the material necessary to accurately review tree permit applications related to this project (and in the timelines that Metrolinx requires) UF will require supplementary information beyond what is being proposed in the VMPs. This information includes:</p> <ol style="list-style-type: none">1. Permit Application Form - should be completed by the owner, or by the agent, if the application is being made by an agent or consultant and the owner has completed the Owner's Authorization Form. <p>Private and Street Tree Bylaw Permit Application is available at: https://www1.toronto.ca/City%20Of%20Toronto/Parks%20Forestry%20%20Recreation/03Trees%20and%20Ravines/Files/pdf/A/Application_to_Injure_or_Destroy_Trees.pdf</p> <p>Ravine and Natural Feature Protection Permit Application is available at: http://www1.toronto.ca/City%20Of%20Toronto/Parks%20Forestry%20%20Recreation/03Trees%20and%20Ravines/Files/pdf/R/Ravine%20and%20Natural%20Feature%20Permit%20Application.pdf</p> <p>Ravine and Natural Feature Protection Owner's Authorization is available at: https://wx.toronto.ca/intra/it/pubformrep.nsf/cf31a385c46c917b85257460004920a9/86285f41f75e53fb85257e8f0069ea84/\$FILE/01_0146_Owners_Authorization_to_Submit_an_Application.pdf</p> <ol style="list-style-type: none">2. Permit Application Fee - \$313.99/tree (subject to change) for tree protected under the Private tree and Street Tree Bylaws. No permit fee required RNFP applications (subject to change).3. Plan of Survey, Legal or Boundary Survey - Drawn and dimensioned in appropriate metric scale that corresponds to the site plan, showing and quantifying the area(s) of all land parcel(s) and easements relevant to the proposal, and showing existing conditions	Refer to responses to Items# 257 and #259.

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>4. Site Plan/Construction Plans – Plans of proposed works must be drawn and dimensioned in appropriate metric scale on a base plan that corresponds to the legal plan, and shows intended construction works, limits of construction, material storage, access requirements, servicing, etc. If applicable all site plans and construction drawings must show the exact location of the RNFP Limit, and the bylaw note must be shown on all site and construction drawings.</p> <p><u>Ravine & Natural Feature Protection Bylaw Note:</u></p> <p>The Ravine & Natural Feature Protection Bylaw, Chapter 658 of the City of Toronto Municipal Code regulates the injury and destruction of trees, dumping of refuse and changes to grade within protected areas defined in Schedule A. Under this bylaw protected trees may not be removed, injured or destroyed, and protected grades may not be altered, without written authorisation from Urban Forestry Ravine & Natural Feature Protection, on behalf of the General Manager of Parks, Forestry & Recreation. Convictions of offences respecting the regulations in the Ravine & Natural Feature Protection Bylaw are subject to fines, and the landowner may be ordered by the court to restore the area to the satisfaction of the City. A person convicted of an offence under this Bylaw is liable to a minimum fine of \$500 and a maximum fine of \$100,000 for each tree destroyed, a maximum fine of \$100,000 for any other offence committed under this chapter, and/or a Special fine of \$100,000. A person convicted of a continuing offence, including failure to comply with ravine permit conditions is liable to a maximum fine of not more than \$10,000 for each day or part of a day that the offence continues. (version June 2008)</p> <p>5. Arborist Report – Details outlined below.</p> <p>6. Tree Protection Plan – All trees not approved for removal or injury must be protected to the satisfaction of UF. The applicant must submit a tree protection plan detailing how trees proposed for preservation on the property and adjacent properties, if applicable, will be protected during construction. The plan must comply with the City’s Tree Protection Policy and Specifications for Construction near Trees (July 2016). RNFP trees require larger TPZs than Private Tree and City Street Tree bylaw protected trees. The tree protection plan must detail pre- and post-construction tree maintenance that would be required to ensure the survival, health, and vigour of trees to be retained on site.</p> <p>7. Planting plan/Landscape plan/Naturalisation Plan - A legible planting plan with an appropriate scale must be provided, detailing all proposed soft/hard landscaping surfaces plus proposed improvements to the natural environment, including:</p> <ul style="list-style-type: none">Proposed tree species, sizes, and locations must be provided for review and approval.For RNFP applications, replacement trees must be non-invasive, native and preferably indigenous, grown from an acceptable local seed source, and appropriate species must be matched to existing site conditions. In naturalised areas, use should be made of species that are typically associated with specific indigenous forest ecosystems, as detailed in the Ecological Land Classification Guide for Southern Ontario. <p>Compensatory planting may also take the form of a stewardship plan, naturalisation plan, or forest management plan, if appropriate. Stewardship Plans will need to be multi-year landscape compensation and restoration plans, including monitoring program, the scope and duration of which will be agreed on with Urban Forestry.</p> <p>When applicable:</p> <p>8. Grading, Drainage and Stormwater Plans - A legible grading plan, at an appropriate scale, must be provided, indicating existing and proposed grades, as well as details of site drainage</p>	

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>and storm water management. Grade changes are not permitted within established bylaw protected tree's TPZs therefore the plan must confirm the limit of proposed grading does not extend into the TPZs.</p> <p>9. Sediment Control Plan (Erosion & Sediment Control Plan) - A sediment control plan must be provided, at an appropriate scale, and indicating location and construction details of sediment control measures to be erected prior to construction. Plans must show that protection is adequate and located outside/above the TPZs of trees & natural areas in protected areas. The sediment control fencing must be installed to Ontario Provincial Standards (OPSD-219.130, see Section 7, Figure 5) and to the satisfaction of UF.</p> <p>10. Geotechnical report (or plans stamped by Geotechnical Engineers) - The report needs to demonstrate that the long term slope stability has been addressed, as well as any issues related to surcharging, infiltration trenches, and site drainage, and that the 10m setback is provided as per Official Plan policy 3.4.8. The plans must be stamped by a structural engineer(s).</p> <p><u>Arborist Report Details</u></p> <p>Arborist Reports must be dated. The report needs to be less than 1 year old from the date of submission of the tree permit application.</p> <p>Arborist Reports must contain the following information:</p> <ul style="list-style-type: none">i. Contact Information: Provide name, address, telephone number and email address of the applicant/project lead.ii. Outline Construction Project: Provide details on the proposed construction project.iii. Methodology: Outline how information was collected.iv. Tree Identification: Tree species, diameter (dbh in cm), condition, category, location, minimum tree protection zone (TPZ), bylaw jurisdiction, and other pertinent details must be clearly identified (e.g. Species at Risk). Tree stem sizes and locations must be accurately surveyed on the plans in order to correctly determine the impacts to the trees. <p>All trees, on-or off-site protected under the Private Tree and City Street tree bylaws and within 6 m of the proposed construction impact zone of any proposed development activity must be included in the arborist report inventory. For trees in the RNFP area, all trees, on-or off-site protected under the RNFP bylaw and within 12 m of the proposed construction impact zone of any proposed development activity must be included in the arborist report inventory.</p> <p>The minimum TPZ's need to be drawn on the plans in accordance with applicable requirements as outlined in the City's Tree Protection Policy and Specifications for Construction Near Trees document available at: https://www1.toronto.ca/city_of_toronto/parks_forestry/recreation/urban_forestry/files/pdf/TreeProtSpecs.pdf (pg. 6, Table 1).</p> <p>Tree Categories:</p> <ul style="list-style-type: none">1. Trees with diameters of 30 cm or more, situated on private property on the subject site.2. Trees with diameters of 30 cm or more, situated on private property, within 6 m of the subject site.3. Trees of all diameters situated on City owned parkland within 6 m of the subject site.4. Trees of all diameters situated within lands designated under City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection.	

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>5. Trees of all diameters situated within the City road allowance adjacent to the subject site. Note: If trees are located within the RNFP designated area but are located within the City road allowance, the trees should be identified as both Category 4 and 5. The trees would be protected under the Street Tree Bylaw.</p> <p>i. Tree Impacts: Identify whether the trees will be fully protected, removed or injured. Tally number of trees to be removed, injured and fully protected.</p> <p>ii. Rationale and Details on the Tree Impacts: The reason for the removal or injury of any trees must be clearly outlined. The arborist report needs to describe all work proposed within the TPZ (e.g. retaining wall, grade changes, etc.) The report should outline the distance from the tree to the proposed work. E.g. Tree no. 1 – Grade change at 2.4 m into the 4.8 m TPZ. The arborist should provide their professional opinion on whether the injury is sustainable or if removal of the tree is required.</p> <p>iii. Tree Preservation Measures: Describe in detail recommended tree preservations measures including, but not limited to, vertical hoarding, horizontal hoarding, tree-sensitive demolition, root zone compaction protection, canopy pruning, root-sensitive excavation, root pruning, and post construction care.</p> <p>iv. Recommendation for Mitigation: Provide recommendations and details on mitigating tree negative impacts resulting from the proposed development. Mitigation should include compensating for tree removal by planting replacement trees on the site; and, if applicable, taking actions to restore and enhance the existing site. Details for compensation can be found under Appendix A - Planting plan/Landscape plan/Naturalisation Plan</p>	
263		Various (e.g Volume 5, pg. 23)	It is stated that construction staging areas and access routes will be determined during detailed design stage. UF requests that staging areas and access routes are not located within any of the City of Toronto's Natural Areas or Parks to reduce impacts to trees and natural areas.	A commitment will be added to Volume 5 to indicate that these areas are to be avoided when selecting staging areas during detailed design.
264		Various (e.g. Volume 3 page lviii)	Proposed vegetation locations were measure using GIS and the amount of vegetation removal was measured in hectares and is estimated. During detailed design it is important that proposed tree removals and injuries are assessed through field surveys/ground truthing to ensure that the data is accurate. This level of accuracy is essential when determining whether trees are to be fully protected, injured or require removal. It is also necessary when trying determe whether trees are located solely within Metrolinx's ROW, or are Boundary or Neighbour trees.	Agreed – as outlined throughout the EPR and in response to comment #253 above, the assessment of the extent of vegetation/tree removals is considered the first step (as outlined in the EPR and Natural Environment Impact Assessment Report) and more detailed tree inventories will need to be undertaken during detailed design.
265		Various (e.g. Volume 3, pg.926)	Portions of the City's Natural Heritage System (NHS) [Map 9 of the City of Toronto Official Plan (2006)] and Environmentally Signifiant Areas (ESAs) [Map 12 of the Official Plan (2012)] will be impacted by the proposed project (e.g. East Point Bluffs ESA). A Natural Heritage Impact Study (NHIS) outlining the existing site conditions, the impact that the project will have on the NHS and ways to mitigate negative impacts on and/or improve the NHS should be prepared for these	The existing site conditions have been documented in Appendix A1 Baseline Conditions, and the impacts to the natural areas and proposed mitigation have been documented in Appendix A2 Impact Assessment. The majority of impacts associated with the electrification of the rail network will be contained within the existing corridor ROW. Designated areas, such as the East Point Bluffs ESA, will result in minor vegetation clearing along the existing edge. Metrolinx has identified that removals should be minimized to the extent possible within sensitive areas. Additionally, Metrolinx is in consultation with Conservation Authorities and Municipalities to establish a Metrolinx Compensation Protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies. Permits and approvals related

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				to municipal tree by-laws and municipal tree removal permits will be obtained, as warranted. In order for Metrolinx to acknowledge and provide further identification of impacts to the NHS and ESAs, Metrolinx requests the digital layers from the City.
Planning, Strategic Initiatives, Policy and Analysis (SIPA) Comments for Environmental Assessments				
266		1. Identification of Natural Heritage Areas and Features	<p>Baseline assessments should identify municipal natural heritage systems and municipally identified significant areas:</p> <p>Natural heritage system http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=03eda07443f36410VgnVCM10000071d60f89RCRD See Map 9 and Map 12</p> <p>Environmentally Significant Areas (ESAs) http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=68fd811f23248410VgnVCM10000071d60f89RCRD</p> <p>If you require information, please contact Jane Weninger, Senior Planner, City Planning Jane.Weninger@toronto.ca</p>	See response to comment #119
267		2. Protection, Restoration and Enhancement of Natural Heritage	<p>Policy 3.4.13 of the Official Plan requires that new or expanding infrastructure will avoid ESAs unless there is no reasonable alternative, adverse impacts are minimized and natural features and ecological functions are restored or enhanced where feasible.</p> <p>http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=f6ce5d0a02148410VgnVCM10000071d60f89RCRD</p> <p>In addition to identifying potential impacts to natural heritage features, proposed restoration and enhancement of impacted natural heritage features should also be identified and will be confirmed by Urban Forestry, Ravine Protection and/or TRCA.</p> <p>If you require additional information please contact Jane Weninger, Senior Planner, City Planning Jane.Weninger@toronto.ca</p>	<p>The OCS infrastructure (i.e. poles and foundation) will be installed directly adjacent to the existing rail line. However, due to the required clearing zone, vegetation removals along the edge of the rail line may be required. MX has identified that removals should be minimized to the extent possible within sensitive areas. As discussed in the Natural Environment Impact Assessment Report (Appendix A2) MX will prepare Vegetation Management Plans as part of the Detail Design process, which will include Tree/Vegetation Compensation Protocol.</p> <p>Refer to responses to Items# 257 and #259.</p>
268		3. Wildlife Crossings	<p>Where new infrastructure is being constructed across natural heritage features, proponents should identify opportunities (e.g., locations) for wildlife crossings.</p> <p>If you require additional information please contact Kelly Snow, Planner, City Planning Kelly.Snow@toronto.ca</p>	<p>The Natural Environment Impact Assessment report (Appendix A) outlines mitigation measures for potential effects to wildlife.</p> <p>It should be noted that the OCS will be constructed along rail corridors that already exist and therefore the construction of OCS is not anticipated to create any new adverse impacts with respect to wildlife crossings. In terms of potential effects to wildlife related to the installation of TPFs and Tap locations, please refer to the Natural Environment Impact Assessment report (Appendix A).</p>
269		4. Permits	<p>Projects located within the City's Ravine and Natural Feature Protection area may require a permit. Additional information is available through the following link:</p> <p>http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=9b4fdada600f0410VgnVCM10000071d60f89RCRD&vgnextchannel=4bb1927e1d3e9410VgnVCM10000071d60f89RCRD</p>	Acknowledged. This is already documented in Table 1-1, EPR Volume 5.
270		Cultural Heritage	<p>Appendix C - Cultural Heritage Screening Report and Cultural Heritage Impact Assessment Report, Appendix M - CHERs & HIA Reports, Appendix Q - Mapping of Cultural Heritage Resources:</p>	As per the methodology section of these reports, the screening report was scoped to address:

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>The assessment of cultural heritage resources throughout the Rail Corridor prepared for the TPAP Electrification EA requirements, appears to be relatively thorough and comprehensive.</p> <p>There is also a possibility that some potential heritage resources have been over-looked or require a second review. For example, the rail embankment east of Union Station on the USRC and the rail bridges over Parliament and Cherry Streets possess significant heritage importance and require further assessment.</p> <p>Action: Further review of the pertinent City of Toronto rail corridor sections should be undertaken to ensure that all potential heritage resources have been identified and their value assessed.</p>	<p>a. areas within which potential effects will be assessed: e.g., potentially affected bridges/structures along the rail corridor ROW; electrification facility sites, and modified maintenance facility sites</p> <p>b. a summary of known PHP and PHPPS located within Metrolinx owned rail corridors for purposes of compiling an inventory of baseline conditions</p> <p>c. Protected heritage properties adjacent to the study area were also identified. “Listed” heritage properties were not considered protected heritage properties (see Provincial Policy Statement 2014)</p> <p>The Parliament and Cherry Street Subway structures have been identified in Appendix C and EPR Volume 3 as Provincial Heritage Properties, however no impacts to these structures from Electrification are proposed. As such, no further assessment is required.</p> <p>Heritage resources within the Project’s defined OCS & Vegetation Removal Zones have been identified. Where impacts are identified commitments for further work (i.e. completion of HIA) have been provided.</p>
271		Cultural Heritage	<p>Appendix C-1 - Cultural Heritage Screening Report, Table 5-1:</p> <p>Union Station Rail Corridor</p> <p>Action: 2 Heritage Impact Assessments (HIA) are required for the Union Station Rail Corridor and 1 CHER that may result in a requirement for an HIA:</p> <ul style="list-style-type: none">- USRC-1-1, Union Station, Designated, NHS, PHPPS – Alteration impact- HIA complete (Appendix M-1)- USRC-1-4, Scott St. Interlocking Tower, Assessed to be a PHPPS – there will be alteration impact, therefore an HIA will be required.- USRC-1-3, Cherry St. Interlocking Tower, Assessed to be a PHPPS – there will be alteration impact, therefore an HIA will be required.- USRC-1-2, Portland Pedestrian Bridge, CHP, CHER Status to be confirmed.	<p>Since the circulation of the Draft EPR for agency review in January 2017, it has been confirmed that no modifications or impacts to the Scott Street or Cherry Street Interlocking Towers will be needed to facilitate Electrification. As such, no further assessment (i.e. HIA) will be required for Electrification.</p> <p>Portland Pedestrian Bridge was confirmed by the Metrolinx Heritage Committee as a non-heritage property. It should be noted that this bridge is outside the limits of the GO Rail Network Electrification TPAP Study Area as it was previously assessed as part of the UP Express Electrification TPAP (Metrolinx, 2014).</p>
272		Cultural Heritage	<p>Appendix C-1 - Cultural Heritage Screening Report, Table 5-2:</p> <p>Lakeshore West Corridor</p> <p>Action: 2 Heritage Impact Assessments (HIA) are required for the Lakeshore West Rail Corridor within the City of Toronto portion and 4 CHER’s are to be confirmed to determine any requirements for additional HIA’s:</p> <p>LSW-1-5, Humber River Bridge, CHER assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.</p> <p>LSW-2-1, Islington Ave. Bridge, CHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.</p> <p>LSW-1-4, Sunnyside Pedestrian Walkway, CHP, CHER recognized that there was insufficient heritage status to require further assessment. (Appendix M-4)</p> <p>LSW-1-6, Gardiner Expressway, CHP, CHER recognized that there was insufficient heritage status to require further assessment. (Appendix M-6)</p>	<p>The Islington Avenue Bridge was confirmed by the Metrolinx Heritage Committee as a Provincial Heritage Property under O. Reg. 9/06. The Humber River Bridge met criterion under O. Reg. 9/06 and 10/06 and is therefore considered a Provincial Heritage Property and a Provincial Heritage Property of Provincial Significance.</p> <p>As noted, no further assessment is proposed for the Sunnyside Pedestrian Bridge, Gardiner Expressway, Topiary Signs and Willowbrook Maintenance Facility as they are neither a Provincial Heritage Property nor Provincial Heritage Property of Provincial Significance. .</p>

Item No.	Issue	Drawing/Section /Page	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			LSW-1-7, Topiary Signs, PPHP, CHER recognized that there was insufficient heritage status to require further assessment. (Appendix M-3) LSW-2-2, Willowbrook Maintenance Facility, PPHP, CHER recognized that there was insufficient heritage status to require further assessment. (Appendix M-2)	
273		Cultural Heritage	Appendix C-1 - Cultural Heritage Screening Report, Tables 5-3, 5-4, 5-5: There are no heritage resources within the Kitchener, Barrie and Stouville portions of the Rail corridor within the City of Toronto that require an HIA.	Agreed.
274		Cultural Heritage	Appendix C-1 - Cultural Heritage Screening Report, Table 5-6: Lakeshore East Corridor Action: 5 Heritage Impact Assessments (HIA) are required for the Lakeshore East Rail Corridor within the City of Toronto portion: <ul style="list-style-type: none">- LSE-1-3, Gerrard St. East Bridge, CHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.- LSE-2-2, Danforth Ave. Bridge, CHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.- LSE-3-1, St. Clair Ave. Bridge, CHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.- LSE-4-4, Highland Creek Bridge, PHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required. (Appendix M-11).- LSE-5-1, Rouge River Bridge, PHP, assessed to be a PPHP, there will be alteration impact therefore an HIA will be required.	Please note that PPHP stands for Potential Provincial Heritage Property and its heritage status subsequently requires confirmation through the completion of a Cultural Heritage Evaluation Report as recommended in the Cultural Heritage Impact Assessment Report (Appendix C2), and results further summarized in EPR Volume 3. Since the circulation of the draft EPR in January 2017, the Carlaw Avenue and Gerrard Street East Bridges have been confirmed by the Metrolinx Heritage Committee as Provincial Heritage Property under O. Reg. 9/06. As per the associated summaries provided in EPR Volume 3, Sections 8.3.7 and 8.3.8, respectively the Danforth Avenue and St. Clair Avenue Bridges were determined to be non-heritage properties based on the results of the Cultural Heritage Evaluation Reports completed as part of a separate Metrolinx undertakings. A HIA for Highland Creek Bridge will be undertaken during detailed design. As noted in EPR Volume 3, Section 8.3.10 the Rouge River Bridge is being replaced as part of a separate Metrolinx undertaking. Minister’s consent for the removal of the bridge has been granted. An HIA for the replacement of the bridge was completed under a separate Metrolinx project and has been shared with the City.

Table 1-33: City of Vaughan Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CITY OF VAUGHAN			
1	General Comment	<ul style="list-style-type: none">There was no specific ESA impact identified for Vaughan no comment on the report or input on the EA at this time. Moving forward, if the EA undertakes site specific ESA studies for properties in Vaughan, then City would like to request a copy for information and reference.	Noted.
2	Stormwater Management	<ul style="list-style-type: none">There is one Paralleling Station proposed in Vaughan along the Barrie Rail Corridor. This station will consist of a building and gravel pad for electrical equipment, and an access road to Keele Street. A preliminary SWM report was prepared recommending potential measures to deal with storm quantity and quality control targets within ditches and bio-swales. A more detailed analysis for the quantity, quality erosion control and water balance will be provided at the detailed design stage. The City would like a copy of the analysis.	Noted. Further discussion and coordination with the City of Vaughan will be carried out during detail design.
3	General Comment	Add the following in red wherever it can apply: <ul style="list-style-type: none">e.g. Sect 10.7.1 “Metrolinx Community Relations staff will communicate construction work and respond to inquiries from residents and businesses.”	Noted. Mitigation measures for Noise provided in Volume 3 will be reviewed/updated to reference businesses in addition to residents.
4	Safety/Barriers	Volume 1 – Section 3.10 - page 182: This section discusses general horizontal barrier requirements. Provide additional clarity on conditions and impacts related to existing e.g. segments stretching between Rutherford Road and Major Mackenzie or future Multi-Use Recreational Pathway (trails) abutting electrified rail corridors that the City may seek to implement, including: <ul style="list-style-type: none">a. Minimum setback of trail edge to OCS pole and/or rail centerline.b. Protection fence barriers material, height, and location along a Multi-Use Recreational Pathway, if required.c. Restricted uses within the 3 meter setback from OCS poles should the setback zone encroach into private lands or public lands such as parkland. Refer to Attachment 1	As stated in 3.7.5 and 3.10 of Volume 1, more detailed information will be provided in the Final EPR on locations where horizontal barriers may be needed. This analysis was in in progress at the time of writing the Draft EPR. It is further noted that coordination with municipalities will be undertaken during detailed design as part of developing final designs as appropriate.
5	Safety/Barriers	Volume 1 – Figure 3-59 – Page 127: Along the rail corridor within the City of Vaughan it is expected that several at-grade crossings will be converted to grade separated crossings and may include pedestrian bridge crossings, or new pedestrian bridges may be introduced e.g. Major Mackenzie bridge. Provide minimum setbacks of pedestrian bridge from OCS pole and/or rail centerline and associated barrier requirements. Refer to Attachment 2	With regard to setbacks of pedestrian bridge from OCS pole and/or rail centerline and associated barrier requirements: <ul style="list-style-type: none">3 meters minimum setback for an OCS pole to a pedestrian bridge will be required. Regarding barrier requirements, a 2 meter high solid barrier; minimum 5 meters beyond centerline of outside track OR 3 meters beyond last energized conductor passing under the bridge is required.Bridge barrier requirements are further documented in Section 3.9.3 of EPR Vol 1

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
6	Land Use -Easements	<p>Appendix E – Part E1: Land Use and Socio-Economic Assessment Report - Section 4.4.4.2.2 (Page 66) and Appendix E – Part E2: Land Use and Socio-Economic Assessment Report - Section 3.4.4.1 (Page 28):</p> <p>Through the development of Block 27 Secondary Plan or through future detailed Draft Plans of Subdivision, the City may seek public access easements or conveyance of blocks to public ownership through the Maple PS identified lands for the purposes of developing recreational multiuse trail connections abutting the rail corridor to Keele Street.</p> <p>Recreational trails are a minimum of 3 meters wide with a minimum of 1 meter mow strips on either sides and require a 3 meter height clearance.</p> <p>Clarification is required on the setbacks, restrictions and barrier protection structures required in conditions of trails abutting electrified rail corridors.</p> <p>Refer to Attachment 4.</p>	<p>With regard to setbacks, restrictions and barrier protection structures required in conditions of trails abutting electrified rail corridors:</p> <ul style="list-style-type: none">Minimum 5 meters from the centerline of the track for a non-climbable wall; 8m minimum for a climbable (tiered) wall.Section 3.10 of EPR Vol 1 will be updated to include information related to locations where horizontal barriers will be required along the corridors.
7	Infrastructure Siting	<p>Appendix E – Part E1: Land Use and Socio-Economic Assessment Report - Figure 4-15 (Page 63) and Figure B-60, and other locations within the EPR report:</p> <p>Inconsistent Maple PS parcel location and limits throughout the EPR draft document.</p> <p>Volume 1 Figure 3-46 Page 100 Maple PS location and structure footprint further south when compared to Figure 4-15 (Page 63) and Figure B-60 of Volume 1.</p> <p>Refer to Attachments 3 and 4.</p>	<p>The Maple PS site has changed locations multiple times throughout the Pre-Planning Phase in an effort to accommodate City of Vaughan/York Region comments.</p> <p>The proposed location of the Maple PS site as identified in Figure 3-46 of EPR Volume 1 is correct. The EPR will be reviewed/updated to ensure this is consistently shown.</p>
8	Project Construction	<p>General Comment:</p> <p>Provide description of expected impacts of construction activities during project implementation such as identifying potential locations for additional temporary material assembly, storage, and lay down areas, construction access roads, and associated durations.</p>	<p>Construction staging, access and laydown areas will be determined during detailed design.</p> <p>Proposed construction access routes are shown on the traction power facility plans/maps contained in Volume 1, Sections 3.6.5, 3.6.7, 3.6.8. In addition, Volume 1 Section 3.15 provides information about the anticipated construction activities.</p>
9	General Comment	<p>Draft Environmental Report – Volume 1</p> <ul style="list-style-type: none">Executive Summary<ul style="list-style-type: none">Pp XXXIV – Proposed Kirby GO station is not mentioned.Page 25 – Figure 2-2 does not appear to show the proposed Kirby GO Station.	<p>The scope of the Electrification TPAP has considered existing GO stations or stations which had EA approval at the time of preparing the EA. Separate EAs/TPAPs will be necessary and will be undertaken in the future for the new GO stations as outlined in Section 3.13 of Volume 1.</p>
10	Infrastructure Siting/Land Use	<p>Draft Environmental Report – Volume 1</p> <ul style="list-style-type: none">Subsection 3.6.12.14, Page 96. – It should be noted that the Maple Paralleling Station (PS) is located in an agricultural area that is undergoing a Secondary Plan for urban development. The draft land use designations for the Secondary Plan identify the parcel for the Maple PS as Mid-Rise Residential and there is a potential stormwater management facility proposed to be located nearby.	<p>Metrolinx recognizes that the Maple Paralleling Station (PS) is located in an agricultural area that is undergoing review for the future Block 27 Secondary Plan. Electrification project staff met with the City of Vaughan on September 15, 2016 to discuss the siting of the Maple PS.</p> <p>As discussed at the September 15, 2016 meeting, there are no standard offsets for a stormwater management pond from the PS. Engineering solutions such as constructing the site above the 100 year flood line, coordinating elevations and layouts with adjacent stormwater management facilities, and with proposed developments will be further reviewed during design as required.</p> <p>Additional consultation will be undertaken with the City of Vaughan with regards to the placement of the Storm Water Management Facility within the Block 27 Plan area.</p>
11	Infrastructure Siting/Land Use	<p>Draft Environmental Report – Volume 1</p>	<p>As noted, Metrolinx recognizes that the Maple Paralleling Station (PS) is located in an agricultural area that is undergoing review for the future Block 27 Secondary Plan. The proposed approximate footprint of the Maple PS is 47 m</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">Subsection 6.5.5. (Land Use, Maple PS): Currently designated as “New Communities” in Vaughan Official Plan 2010, Schedule 1, which has been in the works for a number of years. The City has worked with stakeholders to development a Secondary Plan and Kirby Go Transit Hub draft plan. The subject lands fall within the Kirby GO Transit Hub designation, which is intended for a mix-of uses. The location of the Power Station on these lands may compromise the work completed to-date. The City requests a meeting with Metrolinx to discussion options for site alternatives and/or mitigation measures so that the Block 27 Secondary Plan and Kirby GO Transit Hub Study is not jeopardized. The City would like to be apprised of any undertakings in this Block, and would like to meet in advance of the finalization of any designs.	<p>x22 m. Based on the conceptual site design, the proposed positioning of the PS facility is abutting the existing railway corridor, and is anticipated to have minimal noise impacts. Given the nature and function of a PS, it is likely to have a similar impact on adjacent land uses as other types of critical infrastructure (i.e., sewage pumping station, well houses, and electrical distribution stations) and is therefore not anticipated to conflict with type of development proposed within the Kirby GO Transit Hub designation. The PS property is south west of the proposed North Maple Regional Park, however the placement of the proposed facility is across from an industrial area and not the proposed park and therefore impacts on the viewshed of the park are not anticipated.</p> <p>Having said this, further coordination (which may include a series of meetings, discussions, and agreements) with the City of Vaughan will be undertaken during detailed design to finalize design details and minimize any conflicts on adjacent uses.</p>
12	Infrastructure Siting/Land Use	Draft Environmental Report – Volume 1 <ul style="list-style-type: none">Subsection 6.6.4. (Maple PS): See comments for Subsection 6.5.5. above.	See response #11 above.
13	Natural Environment – Tree/Vegetation Removal	Draft Environmental Report – Volume 1 <ul style="list-style-type: none">Subsection 9.5.1.1 (Potential Effect and Mitigation Measures): There may be potential for impact to the City’s existing tree canopy or woodlots due to the construction of overhead infrastructure which may pose a safety hazard, which may require the removal of trees along the ROW. Part of the City of Vaughan Term of Council priorities is to “re-establish existing tree canopy”. The City would like to be notified of any significant removal of trees or woodlots as a result of permanent infrastructure development for the ROW or for temporary construction staging areas. Mitigation measures for any removal of trees should be discussed with the City in advance of any construction.	<p>Please note that a conservative quantification of areas of tree/vegetation removal within and outside the Metrolinx ROW have been provided in EPR Volume 3 and Appendix A2. Refer to Sections 6.1.8 and 6.1.9 for areas within the City of Vaughan in Volume 3. During detail design, a Detailed Tree Inventory will be completed. Further discussions regarding extent of removals and compensation protocol will be undertaken with local municipalities and conservation authorities.</p> <p>Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Metrolinx will also work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p>
14	Land Use/Project Construction	Draft Environmental Report – Volume 1 <ul style="list-style-type: none">Subsection 10.5 (Land Use / Socio Economic): Any proposed temporary uses should take into consideration existing and proposed land uses and/or development applications. The location of any sites required for staging that are temporary in nature should not interfere or hinder the processing of applications or development of lands already approved. These sites should also have mitigation measures to reduce any potential impact to sensitive uses and/or areas of environmental sensitivity. Any net loss in environmental features such as loss of trees, should be mitigated or compensated. It is recommended that the identification of potential impacts to existing or proposed land uses, and their mitigation measures should be discussed with staff prior to the finalization of any temporary staging area plans or sites intended for temporary use. The City requests a meeting to discuss proposed staging areas prior to finalization of workplan for construction.	<p>With respect to Tree/Vegetation Compensation, Metrolinx is currently developing a to Tree/Vegetation Compensation in consultation with municipalities and Conservation Authorities that will entail:</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g., reuse/recycling options.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Metrolinx is continuing to work towards finalizing the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p> <p>Municipalities will be consulted during detailed design as appropriate as part of developing final designs and construction management plans as appropriate. See response to Comment #13.</p>
15	General Comment	<p>Draft Environmental Report – Volume 2</p> <p>Consider identifying data sources that may have been missed:</p> <ul style="list-style-type: none">• Vaughan NHN Study (not endorsed by Council), including identification of SWH;• Recent MNRF wetland staking; and• Block 27 - Kirby GO Transit Hub Sub-Study.	<p>Data requests were previously sent to the City of Vaughan as well as the MNRF. Information received was incorporated into the Baseline Conditions reporting which was finalized spring/summer 2016.</p> <p>A review of the additional data sources (as available) will be undertaken and updates will be made to the Impact Assessment Reporting and Volume 3, where necessary.</p>
16	Natural Environment Impacts	<p>Draft Environmental Report – Volume 2</p> <p>Subsection 5.1.10.1</p> <ul style="list-style-type: none">• The PSW staked by MNRF located south of Kirby and west of the rail line may be within 30 m of the rail corridor.• The wetland in the Greenbelt Plan area north of Kirby may be significant due to its size and location within the Greenbelt Plan.• The woodland immediately adjacent to the railway in the north part of Block 27 does not seem to be recognized in Volume 2, although it is identified as woodland in Figure BR-33 in Appendix A2.	<p>Data requests were previously sent to the City of Vaughan as well as the MNRF. Information received was incorporated into the Baseline Conditions reporting which was finalized spring/summer 2016.</p> <p>A review of the additional data sources (as available) will be undertaken and updates will be made to the Impact Assessment Reporting and Volume 3, where necessary.</p>
17	Land Use	<p>Draft Environmental Report – Volume 2</p> <p>Subsection 5.5.10.2 (Page 256)</p> <ul style="list-style-type: none">• It should be noted that a “Block 27 - Kirby GO Transit Hub Sub-Study” has been added as a component of the Block 27 Secondary Plan Study.	<p>Noted – section will be updated as appropriate.</p>
18	Natural Environment – Tree/Vegetation Removal	<p>Draft Environmental Report – Volume 3 (Impact Assessment)</p> <ul style="list-style-type: none">• Focus of the report is on vegetation clearing zone.• Consider making the point that the vegetation clearing zone may also be hindering opportunities for woodland restoration in the VPZ.• Page 444<ul style="list-style-type: none">○ The following text regarding a future Restoration and Enhancement Plan is noted on Page 444. “The City looks forward to ongoing cooperation to identify the principles of restoration to guide the detailed design and “compensation approach”. <p>“Restoration and Enhancement Plan – Metrolinx is currently consulting with Conservation Authorities and Municipalities to establish a Metrolinx Compensation Protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx-owned properties; compensation approach; and tree limb pruning protocols for construction. In general, tree protection measures and compensation will meet or exceed relevant municipal by-laws and/or policies.”</p>	<p>Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>Metrolinx is continuing to work towards finalizing the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
19	General Comment	GO Rail Network Electrification TPAP – Draft Environmental Report, Volume 5 (Commitments and Future Work) <ul style="list-style-type: none">Page 14 – Note that By-Law 205-2007 amended By-Law 185-2007.	Noted. Update will be made.
20	General Comment	GO Rail Network Electrification TPAP – Draft Environmental Report, Volume 5 (Commitments and Future Work) <ul style="list-style-type: none">Subsection 1.4.5: It is noted that construction staging areas are not identified in the conceptual design stage.	Correct. Based on the conceptual nature of the design construction staging areas are unknown at this time. Further assessment will be undertaken during detail design. See response to comment #8.
21	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments - a. Recommend that Metrolinx review the City’s Natural Heritage Network data, as there are discrepancies in the features identified in many of the figures (refer to detailed comments below).	A data request was previously submitted to the City of Vaughan. To date, no data on the City’s Natural Heritage Network has been received by the project team. The NHN data will be incorporated into the Natural Environment Impact Assessment report once the digital data has been received from the City.
22	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments - b. The definition of “wooded areas” as per the ELC classification is not consistent with the definitions of woodlands and significant woodlands in the Vaughan Official Plan (2010) and the Regional Municipality of York Official Plan (2016 Office Consolidated). Clarification is needed to verify if a wooded area such as the “deciduous woodlands” identified in the report meets the definition of woodland. Our review identified that hedgerows were identified as deciduous woodlands, which is not consistent with the VOP 2010 definition. The criteria used to define a woodland feature pertain to either the size or density of trees within the feature as per the Vaughan Official Plan (2010). This will impact the criteria used to determine natural heritage compensation.	ELC classification of vegetation communities is standard practice for Natural Environment reporting. Due to the scale of the project and in order to maintain consistency with assessment of impacts, the ELC standard was used. There are 26 individual municipalities within the project study limits and it was not feasible to use individual municipal definitions for natural environmental features such as woodlands from Official Plans.
23	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments - c. Appropriate mitigation measures to mitigate/minimize the impacts related to vegetation/tree removals (e.g. Vegetation Management Plans) have been deferred to the detailed design stage. The mitigation measure section should include proposed methodology to determine the area of impact for natural heritage features such as woodlands and wetlands, as methodology can differ from individual tree compensation methodology. A tree inventory is typically used for these types of valuations. The delineation of these features is needed to determine the land area. The report has not suggested that feature delineations would take place. Confirmation is needed on this matter.	See response to Comment #18. The anticipated footprint associated with the OCS Impact & Tree/Vegetation Removal Zones have been summarized in Volume 3 and Appendix A2. In addition, a preliminary quantification (in hectares) of proposed removals within and outside the Metrolinx ROW have been identified. In Section 4.0 of the Natural Environment Impact Assessment Report (Appendix A2), a commitment was made for further investigations to delineate natural heritage features.
24	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments -	Noted. Updates to Volume 3 and Appendix A2 will include reference in the mitigation sections to developing a nesting survey protocol during detailed design where vegetation removal is required outside the breeding bird window.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		d. The City supports the Migratory Bird Convention Act (MBCA) breeding bird window of April 1st to August 31st identified in the report. The nesting survey protocol should be included in the detailed design stage of this project.	
25	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments - e. The Metrolinx Compensation Protocol should differentiate between City/Private lands and Toronto and Region Conservation Authority (TRCA) regulated lands. The City is also looking at distinguishing compensation methodology for feature based compensation and individual trees. The City has worked on similar infrastructure projects (i.e., TransCanada Pipeline) and can provide examples of compensation methodology.	As discussed at the October 11, 2016 tree/vegetation compensation workshop, the Compensation Protocol will differentiate between trees from Right-of-Way land, private and public lands, and natural heritage systems, the difference will be in the applications. Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final. City of Vaughan will continue to be consulted in the development of the Protocol.
26	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment General Comments - f. The City would like to be kept informed of any potential Species at Risk (SAR) identified during the detailed design stage of this project, as the City is working on SAR database.	Noted. Continued discussions with municipalities will be undertaken, as required, during detailed design. However please note that MNRF should be the City's main source for SAR data.
27	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-20 <ul style="list-style-type: none">The report does not acknowledge the lands east of the corridor as “enhancement areas” as per the VOP 2010 Schedule 2. Refer to policies 3.2.3.1.13 to 3.2.3.15. Justification is required to remove enhancement areas from the landscape.The City's Natural Heritage Network (NHN) mapping does not identify a wooded area on the eastern side of the corridor. This wooded area should be further reviewed as per our NHN mapping.A watercourse has been identified in the NHN mapping traversing both sides of the corridor. This is not shown in this figure, please verify presence.All woodland features should be quantified using natural heritage compensation methodology rather than individual tree valuations.	We have reviewed Schedule 2 of the VOP and no enhancement areas are shown within the electrification study areas. It is not clear whether the comment on Figure BR-20 applies to the Terrestrial or ELC figure series. No watercourses are identified within the LIO hydrographic network. As noted in the Comment 21 response, if the City can provide MX with digital data for the NHN, this information will be incorporated into the updated report. Woodlands displayed on terrestrial mapping were identified according to MNRF LIO data sets, further review and refinement of adjacent vegetation communities were completed as part of the Natural Environment ELC mapping based on recent aerial photo interpretation. See response to Comment #18.
28	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-21 and BR-22 <ul style="list-style-type: none">Our NHN mapping also confirms tableland woodland on the eastern side of the corridor. Table land woodlands are managed by the City.Our NHN mapping also confirms potential valleyland impacts on the eastern side of the corridor. All valleyland impacts shall be managed by the TRCA.Individual tree removals are foreseen along the eastern lands. These will be managed by the City.	It Is not clear whether the comment on BR-27 and BR-28 applies to the Terrestrial or ELC figure series. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, the information regarding the table woodland and valleylands will be incorporated into the updated Natural Environment Impact Assessment report. It is noted that TRCA regulated areas have been identified east of the corridor. For vegetation removals within TRCA lands where required, applicable removal and restoration requirements will be followed.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
29	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-23 <ul style="list-style-type: none">All valleyland impacts foreseen along the eastern side of the corridor. These impacts will be managed by the TRCA.	It is not clear whether the comment on BR-21 and BR-22 applies to the Terrestrial or ELC figure series. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, the information regarding the valleylands will be incorporated into the updated Natural Environment Impact Assessment report. It is noted that TRCA regulated areas have been identified east of the corridor.
30	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-24 <ul style="list-style-type: none">All valleyland impacts foreseen along the both sides of the corridor. These impacts will be managed by the TRCA.	It is not clear whether the comment on BR-24 applies to the Terrestrial or ELC figure series. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, the information regarding the valleylands will be incorporated into the updated Natural Environment Impact Assessment report. It is noted that TRCA regulated areas have been identified on both sides of the corridor.
31	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-26 <ul style="list-style-type: none">All valleyland impacts foreseen along the eastern side of the corridor. These impacts will be managed by the TRCA.	It is not clear whether the comment on BR-26 applies to the Terrestrial or ELC figure series. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, the information regarding the valleylands will be incorporated into the updated Natural Environment Impact Assessment report. It is noted that TRCA regulated areas have been identified east of the corridor.
32	Natural Environment	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-27 and BR -28 A watercourse is identified within the City’s NHN mapping but not in the figures. Further review is required. <ul style="list-style-type: none">A significant woodland is located at the eastern portion of corridor. City manages all tableland woodlands.Potential impacts to stormwater management ponds located along eastern corridor. Environmental Services shall be engaged at detailed design stage to determine appropriate mitigation measure and compensation. Where stormwater ponds are located in TRCA regulation limit, TRCA also needs to be consulted.	It was not clear whether the comment on BR-27 and BR-28 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-27 and BR-28. No watercourses are identified within the LIO hydrographic network. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on the watercourse and significant woodland will be incorporated into the updated report. Further discussions with City of Vaughan staff will be undertaken with respect to the Project’s final design, including the Maple PS during detail design. It should be noted, that the Project Team had previously requested to be provided with an approximate location of the planned SWM pond on September 15, 2016. This information has yet to be received.
33	Natural Environment – Land Use	Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment Detailed Comments Appendix A2 – Figure BR-29 <ul style="list-style-type: none">There is a current development application for the south east corner of the Major Mackenzie Drive. Please consult with Development Planning on this matter.A woodland area has been identified on this property, which is not identified the NHN mapping. Please review your data as our mapping does not identify a wooded areas but individual trees.	As outlined in EPR Volume 1, Section 3.7.1, “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.” Therefore, development applications for lands adjacent were not reviewed in detail as part of the Land Use Impact Assessment. Notwithstanding this, as the land use assessment did consider adjacent land uses, the noted development applications will be referenced within the appropriate sections of the EPR and Land Use reports (Appendix E). It is not clear whether the comment on BR-29 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-29. No woodlands have been identified on the ELC Mapping figure BR-29. ELC communities include CVR, CVC, and CVI. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
34	Natural Environment	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p> <p>Appendix A2 – Figure BR-30</p> <ul style="list-style-type: none">No natural heritage features identified in City mapping.Environmental Services shall be engaged at detailed design stage to determine appropriate mitigation measure and compensation for the potential SWM ponds impacts.Please review your data as our mapping does not identify a wooded area but vacant lands.	<p>It is not clear whether the comment on BR-30 applies to the Terrestrial or ELC figure series. No Natural Features have been identified on the Terrestrial Mapping figure BR-30.</p> <p>Several woodland areas have been identified on ELC Figure BR-30; however, these areas are not within the City of Vaughan. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report.</p> <p>Further discussions with City of Vaughan staff will be undertaken with respect to the Project’s final design, including the Maple PS during detail design. It should be noted, that the Project Team had previously requested to be provided with an approximate location of the planned SWM pond on September 15, 2016. This information has yet to be received.</p>
35	Natural Environment	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p> <p>Appendix A2 – Figure BR-31and BR-32</p> <ul style="list-style-type: none">Wooded area identified north of the proposed Maple paralleling station (PS) is not identified within the City’s NHN mapping. This feature may be a hedgerow of trees which is not defined as a “woodland” feature in VOP 2010. Further review is required on definition of features.Maple PS is located within the City’s New Communities Areas Secondary Plan process. See comments for Appendix E2 BR-31 below.	<p>It is not clear whether the comment on BR-31 and BR-32 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figures BR-31 and BR-32. This WOD has been identified based on ELC community classification, not the City of Vaughan OP. As noted in Comment # 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on woodlands will be incorporated into the updated report.</p>
36	Natural Environment	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p> <p>Appendix A2 – Figure BR-33</p> <ul style="list-style-type: none">The majority of the western portion of the corridor is located within Block 27 which is currently undergoing a Secondary Plan process. A subwatershed study has been prepared to establish a natural heritage system for this Block.There is a woodland and a significant woodland both further identified as deciduous woodlands in Figure BR-33. The northern woodland is not significant but the subwatershed study has identified significant amphibian habitat on site.The southern woodland is designated “significant” in our NHN mapping by the Region and confirmed in the subwatershed study. As there is a watercourse contained within the woodland feature, and this woodland is contiguous to a valleyland, the TRCA regulates these areas.The latest wetland staking from MNRF is not identified on Figure BR-33.	<p>It is not clear whether the comment on BR-33 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-33. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report. Metrolinx also requests that the City provide the Subwatershed Study so that information identified with respect to significant wildlife habitat can be included in the updated report.</p> <p>It is noted that TRCA regulated areas have been identified at the southern woodland.</p> <p>We do not have access to the recent MNRF wetland staking. Mapped wetland areas are based on the most recent LIO data.</p>
37	Natural Environment	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p> <p>Appendix A2 – Figure BR-34 and BR-35</p> <ul style="list-style-type: none">There are two watercourses regulated by the TRCA that may be potentially impacted.	<p>It is not clear whether the comment on BR-34 and BR-35 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figures BR-34 and BR-35. It is noted that two TRCA regulated areas have been identified on these figures. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on woodlands will be incorporated into the updated report. Impacts to ORM areas have been identified within report Section 3.4.1.9.4.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">The deciduous woodland feature identified in your mapping is partially identified within the City’s NHN mapping. As per our aerial mapping, the features seem to be fragmented. Further detailed review is needed on this area. The southern portion of this feature is regulated by TRCA as there is an identified watercourse in the NHN mapping.The woodlands are within Oak Ridges Moraine (ORM) plan area and managed by the City. Compensation is required for the woodland feature impacts.	See responses to #18 and #28.
38	Natural Environment	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p> <p>Appendix A2 – Figure BR-36</p> <ul style="list-style-type: none">The NHN mapping identifies a significant Environmental Significant Area (ESA) on this site. The ESA is regulated by the TRCA. Note that there are portions of the woodland feature which are not within TRCA’s jurisdiction. The City shall manage compensation for the features outside the regulation limit.A portion of the deciduous woodlands south of the ESA is not within the NHN mapping. These will need to be reviewed in further detail.The ESA and woodlands are within ORM plan area and managed by the City. Compensation is required for the woodland feature impacts.There is an isolated Provincially Significant Wetland on the eastern side of the corridor. The City, the Ministry of Natural Resources and Forestry and TRCA need to be consulted on the potential removal and replacement of this feature.	<p>It is not clear whether the comment on BR-36 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-36. It is noted that TRCA regulated areas have been identified on this figure. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on woodlands and ESA will be incorporated into the updated report. Impacts to ORM areas have been identified within report Section 3.4.1.9.4.</p> <p>Removal and replacement of the noted PSW is not proposed as part of the electrification undertaking.</p> <p>As outlined in the Draft EPR Volume 3 and the Natural Environmental Impact Assessment Report, vegetation removal may be required in some PSWs.</p> <p>While no direct impacts to amphibian breeding habitat area anticipated, there is potential for these species to occur within wetland areas adjacent to the OCS impact zone, particularly within wetland areas identified as environmentally significant (PSWs, ESAs). Where wetland features are present within or immediately adjacent to the OCS footprint impact/vegetation removal zone, it is recommended the following mitigation measure is implemented to mitigate impacts:</p> <ul style="list-style-type: none">Silt fencing should be erected to act as a physical barrier between the limit of vegetation removal zone and adjacent wetlands. <p>In addition, the following mitigation measures have been proposed in relation to sedimentation and erosion:</p> <p>Sedimentation and erosion may result from vegetation clearing and excavations for OCS foundations. Mitigation measures to reduce or mitigate the potential for adverse effects caused by sediment and erosion include:</p> <ul style="list-style-type: none">Adhere to relevant guidelines and Ontario Provincial Standard Specifications relating to proper sediment and erosion controls including consideration of TRCA[1] Erosion and Sediment Control Guidelines to Urban Construction) and Ontario Provincial Standards Specifications (OPSS) – OPSS 805 (Erosion and Sediment Control Measures).Where temporary storage of the soil is required, the soil will be stored immediately adjacent to the excavation site.Topsoil and subsoil will not be mixed nor will topsoil be contaminated with any other material.Exposed soils will be hydroseeded within 45 days, both for temporary work areas and final grades.Existing vegetation on embankments shall be maintained as long as possible and exposed areas shall be stabilized as soon as possible by seeding and mulching.Appropriate lengths of silt fencing will be installed along the perimeter of minimized, designated work areas to limit construction impacts.Once construction areas are stabilized, all sediment and erosion controls are to be removed. <p>Please see response to Comment #37.</p>
39	Land Use	<p>Appendix A2 Natural Heritage Baseline Conditions and Impact Assessment</p> <p>Detailed Comments</p>	Appendix H includes Terrestrial mapping, therefore we assume this comment applies to BR-23 of the Terrestrial Mapping. Woodland areas identified on these maps are based on the most up to date LIO data. Woodlands in this area

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx										
		Appendix A2 – Appendix H <ul style="list-style-type: none">Figure BR-23 includes outdated information regarding woodlands.PPES wishes to continue to be involved in the detailed design stage of this project specifically in the review of the Vegetation Management Plans, Tree Inventory, Proposed Restoration and Enhancement Plan, and identified construction staging areas.	have been identified on ELC Figure BR-33. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on woodlands will be incorporated into the updated report.										
40	Land Use	Appendix E2 – Land Use and Socio Economic Assessment Impact Assessment December 2016 <ul style="list-style-type: none">Refer to detailed comments already submitted to Winnie Lai through correspondence on December 16, 2016 (Attachment 5). Figure BR-31: Lands are within the “New Community Area” Designation which requires the completion of a secondary plan and Block Plan. Please refer to policies 2.2.3. of Vaughan Official Plan 2010 respecting “New Community Areas”. Block 27 has been identified as a “New Community Area”. The Barrie Corridor traverses Block 27 which is identified as a “New Community Area” in Schedule 1 of Vaughan Official Plan 2010 and is subject to policies 2.2.3 of Vaughan Official Plan 2010. Vaughan staffs have been working for a number of years with landowners and stakeholders to develop a concept for a secondary plan. The proposed PS station would have implications on the land use designations being proposed.	See response to comment #11.										
41	Land Use	1. Table 3-3 Growth Projected in Proximity to the Rail Corridor: <table><tr><th>Growth Area ID</th><th>Growth Area</th><th>Number of Projected Residential Units</th><th>Number of Projected New Residents</th><th>City of Vaughan Comments</th></tr><tr><td>GA7</td><td>Maple Go Station Secondary Plan</td><td>1937</td><td>4367</td><td>Identified as #6, Attachment 1 The Maple GO Secondary Plan came into effect on June 10, 2014. Total of 8.12 ha; maximum permitted gross floor areas of 122, 398.5 m2 for residential and 2,601.5 m2 for commercial land uses; 1,018 residential units. More information on the Maple Go Secondary Plan: http://www.v Vaughan.ca/projects/policy_planning_projects/maplego_secondary_plan/Pages/default.aspx http://www.v Vaughan.ca/council/minutes_agendas/Extracts/47cw1105_13ex_3.pdf There are currently draft plans of subdivisions submitted to Vaughan's Development Planning Department 19T-12V011 http://www.v Vaughan.ca/council/minutes_agendas/Extracts/30cw0617_14ex_56.pdf. The City will be providing details of the draft plans of subdivision in our forthcoming detailed comments.</td></tr></table>	Growth Area ID	Growth Area	Number of Projected Residential Units	Number of Projected New Residents	City of Vaughan Comments	GA7	Maple Go Station Secondary Plan	1937	4367	Identified as #6, Attachment 1 The Maple GO Secondary Plan came into effect on June 10, 2014. Total of 8.12 ha; maximum permitted gross floor areas of 122, 398.5 m2 for residential and 2,601.5 m2 for commercial land uses; 1,018 residential units. More information on the Maple Go Secondary Plan: http://www.v Vaughan.ca/projects/policy_planning_projects/maplego_secondary_plan/Pages/default.aspx http://www.v Vaughan.ca/council/minutes_agendas/Extracts/47cw1105_13ex_3.pdf There are currently draft plans of subdivisions submitted to Vaughan's Development Planning Department 19T-12V011 http://www.v Vaughan.ca/council/minutes_agendas/Extracts/30cw0617_14ex_56.pdf . The City will be providing details of the draft plans of subdivision in our forthcoming detailed comments.	Acknowledged. This comment is specific to the Barrie Rail Corridor Expansion Project (BRCE). A written response to this comment was provided by the BRCE Transit Project Assessment Process (TPAP) project team on May 26, 2017 for the City’s consideration. Please note that the GO Rail Network Electrification and BRCE projects are being assessed as separate TPAPs with consideration for areas of overlap. We will continue to coordinate between ongoing Metrolinx TPAPs so that all stakeholder comments are addressed, documented in the respective Environmental Project Reports and considered during detailed design.
Growth Area ID	Growth Area	Number of Projected Residential Units	Number of Projected New Residents	City of Vaughan Comments									
GA7	Maple Go Station Secondary Plan	1937	4367	Identified as #6, Attachment 1 The Maple GO Secondary Plan came into effect on June 10, 2014. Total of 8.12 ha; maximum permitted gross floor areas of 122, 398.5 m2 for residential and 2,601.5 m2 for commercial land uses; 1,018 residential units. More information on the Maple Go Secondary Plan: http://www.v Vaughan.ca/projects/policy_planning_projects/maplego_secondary_plan/Pages/default.aspx http://www.v Vaughan.ca/council/minutes_agendas/Extracts/47cw1105_13ex_3.pdf There are currently draft plans of subdivisions submitted to Vaughan's Development Planning Department 19T-12V011 http://www.v Vaughan.ca/council/minutes_agendas/Extracts/30cw0617_14ex_56.pdf . The City will be providing details of the draft plans of subdivision in our forthcoming detailed comments.									
42	Land Use	1. Table 3-3 Growth Projected in Proximity to the Rail Corridor: <table><tr><td>GA20</td><td>Block 27 Secondary Plan and Hub Study</td><td>N/A</td><td>19,000 to 26,700</td><td>Identified as #5, Attachment 1 Please visit: http://www.v Vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area--Block-27.aspx for the most up-to-date information on the Block 27 Secondary Plan and the supplementary “Kirby GO Transit Hub Study”, which is in its preliminary phases. Public Meeting #1 was held on June 9, 2016. It should be noted the land use mapping provided in Appendix B-2 (York Region Correspondence) DWG No. APP-2 should be updated to reflect the most updated working draft land use plan dated June 2016 (http://www.v Vaughan.ca/projects/policy_planning_projects/General%20Documents/New%20Community%20Areas%20Block%2027%20and%2041/2016%2006%2009%20June%20OH%20Presentation%20Final.pdf). This draft version of the land use schedule was presented at a PIC June 2016, however has not gone to a Public Hearing, Committee or Council as yet.</td></tr></table>	GA20	Block 27 Secondary Plan and Hub Study	N/A	19,000 to 26,700	Identified as #5, Attachment 1 Please visit: http://www.v Vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area--Block-27.aspx for the most up-to-date information on the Block 27 Secondary Plan and the supplementary “Kirby GO Transit Hub Study”, which is in its preliminary phases. Public Meeting #1 was held on June 9, 2016. It should be noted the land use mapping provided in Appendix B-2 (York Region Correspondence) DWG No. APP-2 should be updated to reflect the most updated working draft land use plan dated June 2016 (http://www.v Vaughan.ca/projects/policy_planning_projects/General%20Documents/New%20Community%20Areas%20Block%2027%20and%2041/2016%2006%2009%20June%20OH%20Presentation%20Final.pdf). This draft version of the land use schedule was presented at a PIC June 2016, however has not gone to a Public Hearing, Committee or Council as yet.	Please see response to comment #41					
GA20	Block 27 Secondary Plan and Hub Study	N/A	19,000 to 26,700	Identified as #5, Attachment 1 Please visit: http://www.v Vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area--Block-27.aspx for the most up-to-date information on the Block 27 Secondary Plan and the supplementary “Kirby GO Transit Hub Study”, which is in its preliminary phases. Public Meeting #1 was held on June 9, 2016. It should be noted the land use mapping provided in Appendix B-2 (York Region Correspondence) DWG No. APP-2 should be updated to reflect the most updated working draft land use plan dated June 2016 (http://www.v Vaughan.ca/projects/policy_planning_projects/General%20Documents/New%20Community%20Areas%20Block%2027%20and%2041/2016%2006%2009%20June%20OH%20Presentation%20Final.pdf). This draft version of the land use schedule was presented at a PIC June 2016, however has not gone to a Public Hearing, Committee or Council as yet.									
43	Land Use	1. Table 3-3 Growth Projected in Proximity to the Rail Corridor:	Please see response to comment #41										

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx										
		<table><tr><td>GA21</td><td>Rutherford Go Station</td><td>330</td><td>670</td><td>It appears as though these numbers were derived from the <i>Where and How To Grow Report, 2009</i>. There is no Secondary Plan established for this area at this time, however, the City will be initiating its MCR process in 2017 in which the area will be re-assessed. The City will apprise Metrolinx of any updates once new population forecasts are provided.</td></tr></table>	GA21	Rutherford Go Station	330	670	It appears as though these numbers were derived from the <i>Where and How To Grow Report, 2009</i> . There is no Secondary Plan established for this area at this time, however, the City will be initiating its MCR process in 2017 in which the area will be re-assessed. The City will apprise Metrolinx of any updates once new population forecasts are provided.						
GA21	Rutherford Go Station	330	670	It appears as though these numbers were derived from the <i>Where and How To Grow Report, 2009</i> . There is no Secondary Plan established for this area at this time, however, the City will be initiating its MCR process in 2017 in which the area will be re-assessed. The City will apprise Metrolinx of any updates once new population forecasts are provided.									
44	Land Use	<p>Concord GO Secondary Plan Area</p> <p>Not identified on Table 3-3 as a “Growth Area” in Vaughan is the Concord Go Centre Secondary Plan area (Identified as #7 on Attachment 1). The subject lands are centered on Highway 7 and the GO Barrie Rail Line, bounded by Rivermede Road to the north, the hydro corridor to the east and south, the GO Rail line and Bowes Road to the west. It also includes several properties immediately adjacent to the GO Rail Corridor, north of Gemma Court and south of Highway 7. The area is approximately 162 hectares. Proposed population includes 4,000 – 8,000, and 8,000 – 10,000 jobs. Unit count includes 950 in the first phase, with the final total to be determined through further study and includes 35% of affordable housing. The area is already served by VivaNext Bus Rapid Service on Highway 7, and includes an EA approved GO Rail and 407 Transitway station immediately south of Highway 7. The plan proposes close integration of these elements to form a Gateway Hub. More information is available at:</p> <p>http://www.vaughan.ca/projects/policy_planning_projects/concord_go_centre_secondary_plan/Pages/default.aspx</p>	Please see response to comment #41										
45	Land Use	<p>2 . Table 4-2: Community Amenities, Services and Resources in the City of Vaughan</p> <table><tr><td>Mile Marker Centre</td><td>Distance from Existing ROW (metres)</td><td>PIN</td><td>Name</td><td>City of Vaughan Comments</td></tr><tr><td>Government Office (17.99)</td><td>0.0</td><td>33404304</td><td>Vaughan City Hall</td><td>The City is aware that Metrolinx has intentions to twin and electrify the railroad track that borders the City Hall Community Garden (Attachment 2).</td></tr></table>	Mile Marker Centre	Distance from Existing ROW (metres)	PIN	Name	City of Vaughan Comments	Government Office (17.99)	0.0	33404304	Vaughan City Hall	The City is aware that Metrolinx has intentions to twin and electrify the railroad track that borders the City Hall Community Garden (Attachment 2).	Please see response to comment #41
Mile Marker Centre	Distance from Existing ROW (metres)	PIN	Name	City of Vaughan Comments									
Government Office (17.99)	0.0	33404304	Vaughan City Hall	The City is aware that Metrolinx has intentions to twin and electrify the railroad track that borders the City Hall Community Garden (Attachment 2).									
46	Land Use	<p>2 . Table 4-2: Community Amenities, Services and Resources in the City of Vaughan</p> <table><tr><td>Childcare Facility (17.99)</td><td>0.0</td><td>33404304</td><td>YMCA Childcare Centre</td><td><p>Prior to any installation of garden components or increased marketing efforts, the Policy Planning and Environmental Sustainability department will need to understand the full scope of the Metrolinx project and how it will impact the community garden site location. As we are now approaching the implementation stages of the community garden project, this information will be critical in determining how to proceed with the garden, including an update to Mayor and Members of Council on the garden status.</p><p>The City would like to note that the design of the temporary construction in the vicinity of Vaughan City Hall is not adequately detailed in the report. Temporary use of the lands identified for the City Hall Community Garden shall be avoided given the public and private investment in this project (as noted below). Further to this, there is an opportunity for Metrolinx to support the City Hall Community Garden project as part of the tree compensation approach.</p><p>The City Hall Civic Park may be impacted by any additional setbacks/buffers that may be required by Metrolinx due to land acquisitions adjacent to the park. Impacts to this park facility need to be reviewed.</p><p>The City is requesting a meeting with Metrolinx to discuss potential impacts to the proposed community garden</p></td></tr></table>	Childcare Facility (17.99)	0.0	33404304	YMCA Childcare Centre	<p>Prior to any installation of garden components or increased marketing efforts, the Policy Planning and Environmental Sustainability department will need to understand the full scope of the Metrolinx project and how it will impact the community garden site location. As we are now approaching the implementation stages of the community garden project, this information will be critical in determining how to proceed with the garden, including an update to Mayor and Members of Council on the garden status.</p> <p>The City would like to note that the design of the temporary construction in the vicinity of Vaughan City Hall is not adequately detailed in the report. Temporary use of the lands identified for the City Hall Community Garden shall be avoided given the public and private investment in this project (as noted below). Further to this, there is an opportunity for Metrolinx to support the City Hall Community Garden project as part of the tree compensation approach.</p> <p>The City Hall Civic Park may be impacted by any additional setbacks/buffers that may be required by Metrolinx due to land acquisitions adjacent to the park. Impacts to this park facility need to be reviewed.</p> <p>The City is requesting a meeting with Metrolinx to discuss potential impacts to the proposed community garden</p>	Please see response to comment #41					
Childcare Facility (17.99)	0.0	33404304	YMCA Childcare Centre	<p>Prior to any installation of garden components or increased marketing efforts, the Policy Planning and Environmental Sustainability department will need to understand the full scope of the Metrolinx project and how it will impact the community garden site location. As we are now approaching the implementation stages of the community garden project, this information will be critical in determining how to proceed with the garden, including an update to Mayor and Members of Council on the garden status.</p> <p>The City would like to note that the design of the temporary construction in the vicinity of Vaughan City Hall is not adequately detailed in the report. Temporary use of the lands identified for the City Hall Community Garden shall be avoided given the public and private investment in this project (as noted below). Further to this, there is an opportunity for Metrolinx to support the City Hall Community Garden project as part of the tree compensation approach.</p> <p>The City Hall Civic Park may be impacted by any additional setbacks/buffers that may be required by Metrolinx due to land acquisitions adjacent to the park. Impacts to this park facility need to be reviewed.</p> <p>The City is requesting a meeting with Metrolinx to discuss potential impacts to the proposed community garden</p>									
47	Land Use	<p>2 . Table 4-2: Community Amenities, Services and Resources in the City of Vaughan</p> <table><tr><td>Cemetery</td><td></td><td></td><td></td><td>The City requires further information to assess the impact (e.g. PIN #, etc).</td></tr></table>	Cemetery				The City requires further information to assess the impact (e.g. PIN #, etc).	Please see response to comment #41					
Cemetery				The City requires further information to assess the impact (e.g. PIN #, etc).									
48	Land Use	Potential Implications for City Owned Parkland:	Please see response to comment #41										

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																								
		<p>The future Block 18 District Park (Rutherford/Peter Rupert) is impacted by identified land acquisition requirements and potentially impacted by any additional setbacks/buffers that may be required by Metrolinx. Impacts to this future park and proposed park facilities need to be reviewed and additional lands may need to be acquired from the former Community Centre site as compensation.</p> <p>Future trails identified in the Pedestrian & Bicycle Master Plan along this rail corridor need to be considered for linkages/access/crossings. In particular, a linear pedestrian connection is desired between the Rutherford Go Station, Maple Go Station and the Civic Centre Campus, but ideally this linear pedestrian system extends south to Concord/City of Toronto, and north to North Maple Regional Park, future Kirby Go Station and the future east-west trail system to be located on the TransCanada pipeline corridor (Attachment 3).</p> <p>Identified future trails planned for Block 27 and other growth areas need to be considered for linkages/access/crossings.</p> <p>Metrolinx to confirm if a pedestrian connection between the Rutherford Go Station and Preston Hill Crescent is proposed using open space lands.</p>																									
49	Land Use	<p>Potential Implications for Development Planning and City Real Estate:</p> <p>The City of Vaughan will be conducting a detailed review of the impacts of proposed 19 partial acquisitions in Phase 1, discussed in Section 5.1.1.1.2 to existing and future land uses in Vaughan. These comments will be forwarded to York Region and the Metrolinx by January 13th, 2017. For access to any information on any active development applications, please visit: https://maps.v Vaughan.ca/planit/.</p> <p>Table 5-5: Acquisition by Existing Land Use in the City of Vaughan</p> <table><tr><th>Land Use Type</th><th>Land to be Acquired in Phase One (ha)</th><th>City of Vaughan Comments</th></tr><tr><td>Commercial</td><td>0.00</td><td rowspan="10">The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.</td></tr><tr><td>Industrial</td><td>0.07</td></tr><tr><td>Institutional</td><td>0.14</td></tr><tr><td>Mixed Use</td><td>0.00</td></tr><tr><td>Open Space/Recreational Facility</td><td>0.64</td></tr><tr><td>Residential</td><td>0.00</td></tr><tr><td>Vacant Land</td><td>0.00</td></tr><tr><td>Agricultural</td><td>1.18</td></tr><tr><td>ROW/Easement</td><td>0.42</td></tr><tr><td>TOTAL</td><td>2.45</td></tr></table>	Land Use Type	Land to be Acquired in Phase One (ha)	City of Vaughan Comments	Commercial	0.00	The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.	Industrial	0.07	Institutional	0.14	Mixed Use	0.00	Open Space/Recreational Facility	0.64	Residential	0.00	Vacant Land	0.00	Agricultural	1.18	ROW/Easement	0.42	TOTAL	2.45	Please see response to comment #41
Land Use Type	Land to be Acquired in Phase One (ha)	City of Vaughan Comments																									
Commercial	0.00	The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.																									
Industrial	0.07																										
Institutional	0.14																										
Mixed Use	0.00																										
Open Space/Recreational Facility	0.64																										
Residential	0.00																										
Vacant Land	0.00																										
Agricultural	1.18																										
ROW/Easement	0.42																										
TOTAL	2.45																										
50	Land Use	<p>Partial Acquisition of Community Amenities</p> <p>The EA proposes that the only property requirements associated with community amenities area portion of (0.14 ha) of the City of Vaughan City Hall (Mile 17.93, PIN: 0..404304), including an adjoining YMCA Child Care Centre parking lot required in Phase One of the BRCE project.</p> <p>Table 5-6: Property Acquisition in Growth Areas in the City of Vaughan</p>	Please see response to comment #41																								

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																																																																																																																																																																	
		<table><tr><th>Mile Marker</th><th>PIN</th><th>Secondary Plan</th><th>Land to be Acquired in Phase One (ha)</th><th>City of Vaughan Comments</th></tr><tr><td>20.41</td><td>33440205</td><td rowspan="2">Block 27 Secondary Plan</td><td rowspan="2">0.57</td><td rowspan="2">The subject lands fall within the City's proposed Kirby GO Station Hub Study, and proposed as "Local Centre Precinct" designation. For information on status and proposed land uses please visit: http://www.vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area---Block-27.aspx. The City would like to meet to discuss any proposed undertakings.</td></tr><tr><td>20.66</td><td>33440198</td></tr><tr><td></td><td></td><td></td><td></td><td>to acquire these lands and opportunities for mitigation.</td></tr></table>	Mile Marker	PIN	Secondary Plan	Land to be Acquired in Phase One (ha)	City of Vaughan Comments	20.41	33440205	Block 27 Secondary Plan	0.57	The subject lands fall within the City's proposed Kirby GO Station Hub Study, and proposed as "Local Centre Precinct" designation. For information on status and proposed land uses please visit: http://www.vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area---Block-27.aspx . The City would like to meet to discuss any proposed undertakings.	20.66	33440198					to acquire these lands and opportunities for mitigation.																																																																																																																																																	
Mile Marker	PIN	Secondary Plan	Land to be Acquired in Phase One (ha)	City of Vaughan Comments																																																																																																																																																																
20.41	33440205	Block 27 Secondary Plan	0.57	The subject lands fall within the City's proposed Kirby GO Station Hub Study, and proposed as "Local Centre Precinct" designation. For information on status and proposed land uses please visit: http://www.vaughan.ca/projects/policy_planning_projects/Pages/New-Community-Area---Block-27.aspx . The City would like to meet to discuss any proposed undertakings.																																																																																																																																																																
20.66	33440198																																																																																																																																																																			
				to acquire these lands and opportunities for mitigation.																																																																																																																																																																
51	Land Use	<p>Table 5-22: Summary of Land Uses to be Acquired as a Result of GO Station Improvements</p> <table><tr><th></th><th>Land to be Acquired in Phase One (ha)</th><th>Land to be Acquired in Future Phases (ha)</th><th>City of Vaughan Comments</th></tr><tr><td colspan="4">City of Vaughan</td></tr><tr><td colspan="4">Rutherford GO Station</td></tr><tr><td>Road ROW/Easement</td><td>0.08</td><td>N/A</td><td rowspan="4">The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.</td></tr><tr><td>Open Space/Recreational Facility</td><td>0.31</td><td>N/A</td></tr><tr><td colspan="3">Maple GO Station</td></tr><tr><td>Road ROW/Easement</td><td>0.34</td><td>N/A</td></tr></table>		Land to be Acquired in Phase One (ha)	Land to be Acquired in Future Phases (ha)	City of Vaughan Comments	City of Vaughan				Rutherford GO Station				Road ROW/Easement	0.08	N/A	The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.	Open Space/Recreational Facility	0.31	N/A	Maple GO Station			Road ROW/Easement	0.34	N/A	Please see response to comment #41																																																																																																																																								
	Land to be Acquired in Phase One (ha)	Land to be Acquired in Future Phases (ha)	City of Vaughan Comments																																																																																																																																																																	
City of Vaughan																																																																																																																																																																				
Rutherford GO Station																																																																																																																																																																				
Road ROW/Easement	0.08	N/A	The City is requesting a meeting with Metrolinx to discuss any proposed acquisitions proposed for City owned and operated lands.																																																																																																																																																																	
Open Space/Recreational Facility	0.31	N/A																																																																																																																																																																		
Maple GO Station																																																																																																																																																																				
Road ROW/Easement	0.34	N/A																																																																																																																																																																		
52	Land Use	<p>Property Requirements for Rail Infrastructure – Phase 1</p> <table><tr><th>Mileage</th><th>Property PIN #</th><th>Existing Land Use</th><th>Area Required Property (ha)</th><th>Full or Partial Buyout</th><th>Description of Acquisition</th><th>City of Vaughan Comments</th></tr><tr><td>16.50</td><td>32722989</td><td>ROW/Easement</td><td>0.128</td><td>Partial Fee Simple</td><td>Retaining Wall and Drainage</td><td>Low-Rise Residential</td></tr><tr><td>16.56</td><td>32721473</td><td>ROW/Easement</td><td>0.055</td><td>Partial Fee Simple</td><td>Retaining Wall and Drainage</td><td>Low-Rise Residential</td></tr><tr><td>16.81</td><td>33402540</td><td>ROW/Easement</td><td>0.042</td><td>Partial Fee Simple</td><td>Fill Slope & Ditch</td><td>Low-Rise Residential</td></tr><tr><td>16.87</td><td>33402543</td><td>Open Space/Recreational Facility</td><td>0.138</td><td>Partial Fee Simple</td><td>Fill Slope & Ditch, Retaining Wall</td><td>Low-Rise Residential</td></tr><tr><td>17.06</td><td>33402575</td><td>Open Space/Recreational Facility</td><td>0.326</td><td>Partial Fee Simple</td><td>Fill Slope & Ditch, Retaining Wall</td><td>Low-Rise Residential</td></tr><tr><td>17.12</td><td>33402109</td><td>Open Space/Recreational Facility</td><td>0.133</td><td>Partial Fee Simple</td><td>Fill Slope & Ditch, Retaining Wall</td><td>Low-Rise Residential</td></tr><tr><td>17.31</td><td>33402106</td><td>Open Space/Recreational Facility</td><td>0.039</td><td>Partial Fee Simple</td><td>Retaining Wall, Ditch</td><td>Low-Rise Residential</td></tr><tr><td>17.87</td><td>33400114</td><td>ROW/Easement</td><td>0.076</td><td>Full Fee Simple</td><td>Cut Ditch</td><td>Partial ORM /Adjacent to Maple Heritage District Plan</td></tr><tr><td>17.93</td><td>33404304</td><td>Institutional – Vaughan City Hall</td><td>0.085</td><td>Partial</td><td>Fee Simple – Cut Ditch, Retaining</td><td>Designated as Major Institutional</td></tr><tr><td colspan="7"></td></tr><tr><td></td><td></td><td>/ YMCA Child Care Centre</td><td></td><td></td><td>Wall and Drainage</td><td></td></tr><tr><td>18.05</td><td>33400888</td><td>Institutional – Vaughan City Hall / YMCA Child Care Centre</td><td>0.056</td><td>Partial</td><td>Fee Simple – Retaining Wall and Drainage</td><td>Partial ORM /Adjacent to Maple Heritage District Plan</td></tr><tr><td>18.05</td><td>33400889</td><td>ROW/Easement</td><td>0.016</td><td>Partial</td><td>Major Mackenzie Bridge</td><td>Partial ORM /Adjacent to Maple Heritage District Plan</td></tr><tr><td>18.11</td><td>33430859</td><td>ROW/Easement</td><td>0.086</td><td>Partial</td><td>Retaining Wall and Stormwater</td><td>Partial ORM /Adjacent to Maple Heritage District Plan</td></tr><tr><td>18.49</td><td>33431880</td><td>ROW/Easement</td><td>0.018</td><td>Partial</td><td>Retaining Wall and Ditch</td><td>Partial ORM /Adjacent to Maple Heritage District Plan</td></tr><tr><td>18.55</td><td>33432755</td><td>Industrial</td><td>0.072</td><td>Partial</td><td>Cut Ditch</td><td>Partial ORM and</td></tr><tr><td>20.41</td><td>33440205</td><td>Agricultural</td><td>0.564</td><td>Partial</td><td>MOW Service Road</td><td>Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/</td></tr><tr><td>20.66</td><td>33440198</td><td>Agricultural</td><td>0.008</td><td>Partial</td><td>MOW Service Road</td><td>Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/</td></tr><tr><td>20.66</td><td>33440033</td><td>Agricultural</td><td>0.063</td><td>Partial</td><td>Cut Ditch</td><td>Lands designated as Greenbelt and Agricultural</td></tr><tr><td>21.09</td><td>33440029</td><td>Agricultural</td><td>0.316</td><td>Partial</td><td>Fill slope, cut ditch</td><td>Designated as Agricultural</td></tr><tr><td>21.65</td><td>33440013</td><td>Agricultural</td><td>0.150</td><td>Partial</td><td>Cut ditch</td><td>Lands are within ORM / Greenbelt / Agricultural / Natural Heritage</td></tr><tr><td>21.84</td><td>33440008</td><td>Agricultural</td><td>0.082</td><td></td><td>Cut ditch</td><td>Lands are within ORM / Greenbelt / Agricultural / Natural Heritage</td></tr></table>	Mileage	Property PIN #	Existing Land Use	Area Required Property (ha)	Full or Partial Buyout	Description of Acquisition	City of Vaughan Comments	16.50	32722989	ROW/Easement	0.128	Partial Fee Simple	Retaining Wall and Drainage	Low-Rise Residential	16.56	32721473	ROW/Easement	0.055	Partial Fee Simple	Retaining Wall and Drainage	Low-Rise Residential	16.81	33402540	ROW/Easement	0.042	Partial Fee Simple	Fill Slope & Ditch	Low-Rise Residential	16.87	33402543	Open Space/Recreational Facility	0.138	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential	17.06	33402575	Open Space/Recreational Facility	0.326	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential	17.12	33402109	Open Space/Recreational Facility	0.133	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential	17.31	33402106	Open Space/Recreational Facility	0.039	Partial Fee Simple	Retaining Wall, Ditch	Low-Rise Residential	17.87	33400114	ROW/Easement	0.076	Full Fee Simple	Cut Ditch	Partial ORM /Adjacent to Maple Heritage District Plan	17.93	33404304	Institutional – Vaughan City Hall	0.085	Partial	Fee Simple – Cut Ditch, Retaining	Designated as Major Institutional										/ YMCA Child Care Centre			Wall and Drainage		18.05	33400888	Institutional – Vaughan City Hall / YMCA Child Care Centre	0.056	Partial	Fee Simple – Retaining Wall and Drainage	Partial ORM /Adjacent to Maple Heritage District Plan	18.05	33400889	ROW/Easement	0.016	Partial	Major Mackenzie Bridge	Partial ORM /Adjacent to Maple Heritage District Plan	18.11	33430859	ROW/Easement	0.086	Partial	Retaining Wall and Stormwater	Partial ORM /Adjacent to Maple Heritage District Plan	18.49	33431880	ROW/Easement	0.018	Partial	Retaining Wall and Ditch	Partial ORM /Adjacent to Maple Heritage District Plan	18.55	33432755	Industrial	0.072	Partial	Cut Ditch	Partial ORM and	20.41	33440205	Agricultural	0.564	Partial	MOW Service Road	Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/	20.66	33440198	Agricultural	0.008	Partial	MOW Service Road	Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/	20.66	33440033	Agricultural	0.063	Partial	Cut Ditch	Lands designated as Greenbelt and Agricultural	21.09	33440029	Agricultural	0.316	Partial	Fill slope, cut ditch	Designated as Agricultural	21.65	33440013	Agricultural	0.150	Partial	Cut ditch	Lands are within ORM / Greenbelt / Agricultural / Natural Heritage	21.84	33440008	Agricultural	0.082		Cut ditch	Lands are within ORM / Greenbelt / Agricultural / Natural Heritage	Please see response to comment #41
Mileage	Property PIN #	Existing Land Use	Area Required Property (ha)	Full or Partial Buyout	Description of Acquisition	City of Vaughan Comments																																																																																																																																																														
16.50	32722989	ROW/Easement	0.128	Partial Fee Simple	Retaining Wall and Drainage	Low-Rise Residential																																																																																																																																																														
16.56	32721473	ROW/Easement	0.055	Partial Fee Simple	Retaining Wall and Drainage	Low-Rise Residential																																																																																																																																																														
16.81	33402540	ROW/Easement	0.042	Partial Fee Simple	Fill Slope & Ditch	Low-Rise Residential																																																																																																																																																														
16.87	33402543	Open Space/Recreational Facility	0.138	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential																																																																																																																																																														
17.06	33402575	Open Space/Recreational Facility	0.326	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential																																																																																																																																																														
17.12	33402109	Open Space/Recreational Facility	0.133	Partial Fee Simple	Fill Slope & Ditch, Retaining Wall	Low-Rise Residential																																																																																																																																																														
17.31	33402106	Open Space/Recreational Facility	0.039	Partial Fee Simple	Retaining Wall, Ditch	Low-Rise Residential																																																																																																																																																														
17.87	33400114	ROW/Easement	0.076	Full Fee Simple	Cut Ditch	Partial ORM /Adjacent to Maple Heritage District Plan																																																																																																																																																														
17.93	33404304	Institutional – Vaughan City Hall	0.085	Partial	Fee Simple – Cut Ditch, Retaining	Designated as Major Institutional																																																																																																																																																														
		/ YMCA Child Care Centre			Wall and Drainage																																																																																																																																																															
18.05	33400888	Institutional – Vaughan City Hall / YMCA Child Care Centre	0.056	Partial	Fee Simple – Retaining Wall and Drainage	Partial ORM /Adjacent to Maple Heritage District Plan																																																																																																																																																														
18.05	33400889	ROW/Easement	0.016	Partial	Major Mackenzie Bridge	Partial ORM /Adjacent to Maple Heritage District Plan																																																																																																																																																														
18.11	33430859	ROW/Easement	0.086	Partial	Retaining Wall and Stormwater	Partial ORM /Adjacent to Maple Heritage District Plan																																																																																																																																																														
18.49	33431880	ROW/Easement	0.018	Partial	Retaining Wall and Ditch	Partial ORM /Adjacent to Maple Heritage District Plan																																																																																																																																																														
18.55	33432755	Industrial	0.072	Partial	Cut Ditch	Partial ORM and																																																																																																																																																														
20.41	33440205	Agricultural	0.564	Partial	MOW Service Road	Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/																																																																																																																																																														
20.66	33440198	Agricultural	0.008	Partial	MOW Service Road	Lands are within Block 27 Secondary Plan, designated for Kirby GO Station Hub Study/																																																																																																																																																														
20.66	33440033	Agricultural	0.063	Partial	Cut Ditch	Lands designated as Greenbelt and Agricultural																																																																																																																																																														
21.09	33440029	Agricultural	0.316	Partial	Fill slope, cut ditch	Designated as Agricultural																																																																																																																																																														
21.65	33440013	Agricultural	0.150	Partial	Cut ditch	Lands are within ORM / Greenbelt / Agricultural / Natural Heritage																																																																																																																																																														
21.84	33440008	Agricultural	0.082		Cut ditch	Lands are within ORM / Greenbelt / Agricultural / Natural Heritage																																																																																																																																																														

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																																										
53	Land Use	<p>Summary of Active Development Applications within the Barrie Rail Corridor ROW:</p> <p>All information on active development applications can be accessed through https://maps.vaughan.ca/planit/. The following information provides some background at to the active development applications currently on file with the City that are immediately adjacent to the rail corridor:</p> <table><tr><th>Development Application Type</th><th>Application File #</th><th>Location</th><th>Municipal Address</th><th>Description</th><th>Status</th></tr><tr><td>Zoning By-law Amendment</td><td>Z.16.049</td><td>Pt Lt 6 & 7, Con 3</td><td>1890 Highway 7</td><td>Mixed-use development</td><td>Proposed (in progress)</td></tr><tr><td>Draft Plan of Subdivision</td><td>19T-16V009</td><td>Pt Lt 6 & 7, Con 3</td><td>1890 Highway 7</td><td>Mixed-use development</td><td>Proposed (in progress)</td></tr><tr><td>Zoning By Law Amendment</td><td>Z.16.006</td><td></td><td>2057 Major Mackenzie Drive</td><td>86 stacked townhouse development proposed with retention of heritage</td><td>Proposed (in progress)</td></tr></table> <table><tr><td></td><td></td><td></td><td></td><td>home and underground parking</td><td></td></tr><tr><td>Zoning By-law Amendment</td><td>Z.11.035</td><td>Pt Lt 31 & 32</td><td>11650 Keele Street</td><td>To expand agricultural related uses on the site.</td><td>Proposed (in progress)</td></tr><tr><td>Site Plan</td><td>DA.16.096</td><td>Pt Lt 1, Con 4, Pt1 Reg Plan 65R-2285</td><td>N/A</td><td>Proposed 1204 m2 Industrial Warehouse building with accessory office uses.</td><td>Proposed (in progress)</td></tr></table>	Development Application Type	Application File #	Location	Municipal Address	Description	Status	Zoning By-law Amendment	Z.16.049	Pt Lt 6 & 7, Con 3	1890 Highway 7	Mixed-use development	Proposed (in progress)	Draft Plan of Subdivision	19T-16V009	Pt Lt 6 & 7, Con 3	1890 Highway 7	Mixed-use development	Proposed (in progress)	Zoning By Law Amendment	Z.16.006		2057 Major Mackenzie Drive	86 stacked townhouse development proposed with retention of heritage	Proposed (in progress)					home and underground parking		Zoning By-law Amendment	Z.11.035	Pt Lt 31 & 32	11650 Keele Street	To expand agricultural related uses on the site.	Proposed (in progress)	Site Plan	DA.16.096	Pt Lt 1, Con 4, Pt1 Reg Plan 65R-2285	N/A	Proposed 1204 m2 Industrial Warehouse building with accessory office uses.	Proposed (in progress)	Please see response to comment #41
Development Application Type	Application File #	Location	Municipal Address	Description	Status																																								
Zoning By-law Amendment	Z.16.049	Pt Lt 6 & 7, Con 3	1890 Highway 7	Mixed-use development	Proposed (in progress)																																								
Draft Plan of Subdivision	19T-16V009	Pt Lt 6 & 7, Con 3	1890 Highway 7	Mixed-use development	Proposed (in progress)																																								
Zoning By Law Amendment	Z.16.006		2057 Major Mackenzie Drive	86 stacked townhouse development proposed with retention of heritage	Proposed (in progress)																																								
				home and underground parking																																									
Zoning By-law Amendment	Z.11.035	Pt Lt 31 & 32	11650 Keele Street	To expand agricultural related uses on the site.	Proposed (in progress)																																								
Site Plan	DA.16.096	Pt Lt 1, Con 4, Pt1 Reg Plan 65R-2285	N/A	Proposed 1204 m2 Industrial Warehouse building with accessory office uses.	Proposed (in progress)																																								
54	Land Use	<p>The above information and comments are preliminary and may be subject to change. The City would like to meet with Metrolinx to discuss the acquisition strategy and the potential to discuss mitigation potential loss of lands and / or uses. The City would like the opportunity to provide more detailed comments, if necessary, by January 13, 2017. We are looking forward to collaboratively working with Metrolinx throughout this process.</p>	Please see response to comment #41																																										

Table 1-34: County of Simcoe Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
COUNTY OF SIMCOE			
1	Safety	<p>We only have one comment/question from the County of Simcoe Transportation department; significant detail is included in the reports with respect to health and safety mitigation of the energised corridor and potential conflicts at bridge structures and the ‘touch-and-step’ potential within the right-of way.</p> <p>What we did not see, or couldn’t find within the reports, are similar mitigation measures for level crossings of the road with the railway and potential conflicts with the overhead power system. Is this detail included in the report?</p>	<p>A Utilities Impact Assessment (see Appendix I) was completed as part of the Electrification TPAP that involved identification of potential conflicts, including overhead conflicts. As stated in the Utilities Impact Assessment Report (Appendix I), the majority of conflicts will be mitigated by the removal, relocation, reconfiguration or burial of overhead utilities. In some cases, primarily relating to those utilities attached to bridges, further study of the potential conflict during the design phase will be required to determine the extent of actual conflict. It should also be noted that these mitigation measures will be further discussed with relevant utility owners as the project design progresses to determine the final solution.</p> <p>Also see response to comment #2 below.</p>
2	Safety	<p>Yes, certainly that was one concern with respect to the physical location of any utilities not conflicting with any Metrolinx infrastructure in the right-of-way but suspect this could be coordinated through the design stage. Our larger concern has to do with the fact that motorists and pedestrians will be travelling directly under the OCS and potential concern with coming into contact.</p>	<p>Specifically, as described in Section 3.6.2.2 of Draft EPR Volume 1 the contact wire height needs to be designed to accommodate the multiple types of trains that operate along the GO corridors (i.e., Double Stacked Freight, GO Electric Multiple Units (EMUs), GO Bi-level trains, VIA Rail, etc.). Therefore, the height of the contact wire was designed to accommodate the highest vertical clearance, which is Double Stacked Freight and GO Bi-Levels (see Figure 3-13).</p> <p>The height of the portals/cantilevers used to support the OCS wires over the electrified tracks will range between approximately 7.6m to 12m above the top of the highest rail. Contact wire height will range from 6m to 7.6m.</p> <p>The maximum height for vehicles and loads according to the Highway Traffic Act is 4.15 m. An exemption may be granted up to 4.3 m. The minimum clearance height of the contact wire at 6m will allow for most farming vehicles to pass under the OCS.</p> <p>In addition, the electrification system will be designed to comply with the minimum vertical clearance requirements and electrical safety standards that ensure pedestrian and motorist safety is maintained.</p> <p>As described above, the OCS will not be reachable from standing surfaces directly below the wires.</p>

Table 1-35: Region of Durham Draft EPR Comments and Responses

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
DURHAM REGION				
1	1	Lakeshore East Expansion to Bowmanville Volume 1, Section 3.2, Page 29 & Section 3.3.2, Page 33	Section 3.2 states that the Base Case Scenario includes planned track expansions by 2025, but the corridor assumptions for the Lakeshore East Corridor as listed in Section 3.3.2 do not include the Lakeshore East GO Rail Expansion to Bowmanville, which Metrolinx has stated will be in operation by 2024. This expansion should be noted, and any requirements for the eventual electrification of the expansion should be identified in the EPR.	Metrolinx’s plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station by 2024. It should be noted that the Traction Power Supply along the Lakeshore East corridor is being designed with Metrolinx’s long-term build out scenario in mind, and this includes the Oshawa-to-Bowmansville expansion. Further, while the GO Rail Network Electrification Project does not assess electrification east of the existing Oshawa GO Station, it does not preclude the provision of electrified service in the future. The scope of the GO Rail Network Electrification Project is for Metrolinx owned corridors/track. The portion of track identified for the Oshawa and Bowmanville expansion is owned by Canadian Pacific Railway (CP Rail).
2	2	ERMF TPS Land Use Volume 1, Section 3.6.14.1, Page 105	The description of the ERMF TPS states that all development in the surrounding area is industrial, but lands to the north and east have a combination of commercial (office) and retail uses.	The Land Use and Socio-Economic Report (Appendix E) has been updated to reflect this adjacent land use.
3	3	Concrete Beam Bridge OCS Attachment Volume 1, Section 3.9.1, Figure 3-58, page 126	Is there a detail for an OCS Support at Concrete Beam Bridge, or is the OCS Support at Concrete Bridge detail used for concrete girder bridges, and the drop pipe is extended to below the concrete girders?	Attachment to a Concrete Bridge will occur if clearances between the track and the bottom of the bridge prohibit the OCS from free spanning. When an attachment is needed on a concrete bridge, the attachment will be located such that it does not affect the bridge. Final design will determine the actual details of how these attachments are made.
4	4	Bridges – Minimum Vertical Clearance Volume 1, Section 3.9.4, pages 133-135	In this section, there are inconsistencies in the stated number of bridges that do not meet the MVC. On p. 134 the report states nine (9) bridges, and on p. 135 the report states twelve (12) bridges. Please clarify.	Page 135 will be corrected to state that 9 bridges do not meet the MVC.
5	22	Extreme Weather and Climate Change Vol.1, Executive Summary, pxxxvii	All bridge, facility and track designs should take into account the impact of extreme weather and climate change e.g. flooding, ice storms, etc. For example bridge and track design should ensure that a flooding pinch point is not created upstream of the tracks that would exacerbate local flooding and potentially undermine the tracks.	The design of bridge modifications, traction power facilities and Overhead Contact System will take into account extreme weather conditions as required by the CSA, as well as climate change. To clarify, no changes in track alignment/design or provision of additional track is proposed as part of the Electrification TPAP scope.
6	23	General Report vol.1, Executive Summary, pxxxviii	In the Lakeshore east corridor it reads Two (4) pedestrian bridges exist but four are specifically listed.	Reference to ‘Two’ was a typo and will be corrected.
7	24	Study Scope, RER, New Stations Vol 1. Chapter 1 p.1	The scope of the study on the Lakeshore East corridor should be revised given the 2016 decision to extend the Lakeshore East corridor north of the 401 in the vicinity of Thornton Road. Metrolinx will own the track from the CN track north over the 401 to the junction with the CP track. Putting frequent RER service to Thornton Corners or Downtown Oshawa station will be much better aligned with and supportive of Growth Plan objectives than the current Oshawa Station which is difficult to access by car, foot,	See response to comment #1. Metrolinx acknowledges the City of Oshawa and Durham Region’s Official Plan objectives and looks forward to working closely beyond the GO Rail Network Electrification TPAP in creating a well-integrated transit and transportation network.

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			bike and local transit. The impact of putting the RER station at the current Oshawa Vi/GO station is extremely detrimental to the Region and Oshawa land use plans. If this location stands, how will Metrolinx mitigate the negative impacts on the Region and the City? Are they willing to build pedestrian and cycling infrastructure over the 401 to enable safe access to the station. Would they build a new infrastructure to improve local transit access?	
8	25	Study Scope Lakeshore East Route, Big Move RTP Vol.1, Chapter 1, p.4	The diagram shows a step with the "consultation people" beside it called "Define Project Study Area". Who was consulted at Durham Region about the limits on the scope of the Lakeshore East route? They note that the Big Move RTP is in the process of being updated and is their guiding document. Will the revised RTP confirm the Lakeshore East Bowmanville extension as the future route of the rail service?	<p>See response to comment #1 regarding project scope.</p> <p>In addition, a meeting was held between Durham Region staff and the Electrification Project Team on November 18th, 2015 to introduce the GO Rail Network Electrification Project and the scope of work/extent of the study area. Durham staff who were in attendance included: Prasenjit Roy – Region of Durham, Roger Saunders – Region of Durham, Christine Drimmie – Region of Durham, Jennifer Simich – Region of Durham, Alex Georgieff – Region of Durham. To date, two rounds of public consultation have been undertaken in Feb/March 2016 and November 2016; notices were sent to Durham Region for the meetings. Further, an information package was issued to Durham Region on November 8, 2016 for the Region's review/comment. Please refer to Volume 4 and Appendix L for further information/documentation.</p> <p>The Metrolinx Board report (September, 2016) outlines the Province's announcement for the LSE extension to Bowmanville. The full report can be accessed through the following link: http://www.metrolinx.com/en/docs/pdf/board_agenda/20160909/20160909_BoardMtg_Regional_Express_Rail_Update_EN.pdf</p>
9	27	Extreme Weather & Climate Change Vol.1 p11 footnote.	All bridge, facility and track designs should take into account the impact of extreme weather and climate change e.g. flooding, ice storms, etc. For example bridge and track design should ensure that a flooding pinch point is not created upstream of the	See response to comment #5.
10	28	Lakeshore East Expansion to Bowmanville Vol1. p. 14	With the decision in June 2016 to proceed with the Bowmanville extension in the same time frame as the RER and electrification, and since the Big Move is being updated to reflect changes, why has there been no formal consultation and reconsideration by Metrolinx with the Region of the RER terminus in Oshawa?	As part of ongoing discussions on the GO Lakeshore East extension, Metrolinx has met with the Durham Region on two separate occasions i.e. October 25, 2016 and March 9, 2017. Metrolinx plans to discuss station plans in greater detail in the near future and will further engage with Durham Region.
11	29	Vegetation Removal, Flooding Impacts Extreme Weather Vol. 1 p 73, Sec. 3.6.4	Re: Vegetation removal. Do the vegetation removal plans consider the impact on speed of storm runoff and mitigate for faster run-off due to less vegetation to slow and absorb it? How do they plan to mitigate to prevent flooding and undermining of rail infrastructure during future extreme weather events?	The drainage of the system is taken into account in the designs. Generally speaking the amount of vegetation removal is negligible when compared to the overall drainage basin.
12	30	Power Failure Vol 1.	In the event of major power failure on a line, can the electric trains be moved with battery power or other energy source so that other trains can use the corridor?	<p>Coordination with Hydro One is being undertaken to ensure the necessary redundancy in the system to ensure electrified GO service will not be interrupted or affected by any shortages in power.</p> <p>In addition, Traction Power Substation (TPS) have been strategically placed throughout the network. In the event of a power outage at a TPS, power can be drawn from other TPS locations. Switching Stations (SWS) are placed between two TPS's and serve this purpose. Metrolinx will also be maintaining a mixed fleet, as not all corridors are currently proposed to be electrified. In a worst case scenario, a diesel powered train(s) could be called into service in the event of a power outage or to move a stranded train.</p>

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
13	5	Bridges, Visual Volume 2, Section 7.8.11, page 477-478	"In the second last paragraph, the number of bridges are listed is incorrect: <ul style="list-style-type: none">- Westney Road was not listed as a ""bridge under rail""- Watson Street is not a bridge that passes over or under the rail corridor. Remove from list as this is not a bridge The last paragraph notes ""Brock Road Bridge"", the correct name is ""Brock Street South Bridge"". This also requires correction in the caption and label for Figure 7-47 on page 479."	Text will be corrected to note that Westney and Salem are bridge under rail and Harwood, Lake Ridge and Henry are bridges over rail. <i>Brock Road</i> will be corrected to 'Brock Street'
14	6	Bridges, Visual Volume 2, Section 7.8.12, page 479	"South Blair Street Bridge was not included in the list of rail bridges over the highway. It should be noted that the Hopkins Street bridge is to be removed as part of the ERMF project."	South Blair bridge will be added and that Hopkins is to be removed.
15	7	Bridges, Visual Volume 3, Section 8.10.10, p. 1043, "Bridges/Rail Overpasses"	Report states that Brock Road Bridge is not pedestrian friendly. What determines if a bridge is pedestrian friendly or not? There are sidewalks on both sides of the bridge and sidewalks on both approaches leading towards the bridge.	The bridge was considered not pedestrian friendly due to narrow width of sidewalks adjacent to fast moving traffic with no shoulder or buffer between sidewalk and moving traffic, also due to crossing of free flow ramp exiting 401.
16	8	Bridges, Visual Volume 3, Section 8.10.11, p. 1046-1047, "Bridges/Rail Overpasses"	There is incorrect information regarding the Harwood Avenue, Lake Ridge Road and Henry Street bridges: <ul style="list-style-type: none">- Harwood Avenue bridge has sidewalks on both sides (not just the west side)- Lake Ridge Road and Henry Street bridges both have sidewalks on both sides (report states no sidewalks) Please revise section accordingly, regarding "pedestrian friendliness". We would also note that Henry Street is a major route for pedetrian and cyclist access to the GO Station, major recreational facilities and the Whitby waterfront, so the assessment of "low visual impact" should be reconsidered.	Text will be updated to note sidewalks on both sides of these bridges (though sidewalk is missing between the bridge and the access road to the sports center and Whitby Station parking lot on the north side). The classification of potential visual impacts are: negligible, low, medium, and high <i>Areas of Negligible Potential Impacts were defined as:</i> <ul style="list-style-type: none">• Industrial and commercial areas• Rural farmland• Rail overpasses in industrial areas or over minor waterways <i>Areas of Low Potential Impacts were defined as:</i> <ul style="list-style-type: none">• Residential areas where homes are more than 20 metres from the railroad right-of-way (ROW)• Most GO stations• Bridges without significant views <i>Areas of Moderate Potential Impacts were defined as:</i> <ul style="list-style-type: none">• Residential areas where homes are between 8 and 20 meters from the railroad ROW• Areas where high-rise buildings in a natural setting are closer than 30 metres to the railroad• ROW• Scenic areas• Scenic overpasses• GO Stations with visual integrity• Bridges with interesting or scenic views• Pedestrian bridges

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p><i>Areas of High Potential Impacts were defined as:</i></p> <ul style="list-style-type: none">Residential areas where homes are within 8 metres of the railroad ROW <p>Categorization of low visual impacts will be reviewed at Henry Street Bridge, and updates made within the Final EPR and Visual Impact Assessment Report, if required.</p> <p>As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/options for enhancing the aesthetics of bridge barriers where feasible/required. Options for design treatments/options for enhancing the aesthetics of bridge barriers, will be discussed in consultation with relevant municipalities during detailed design.</p>
17	9	Bridges, Visual Volume 3, Section 8.10.12, p. 1049, "Bridges/Rail Overpasses"	What determines if a bridge is pedestrian friendly or not? Brock Street South Bridge has sidewalks on both sides and sidewalks on both approaches, leading towards the bridge. It should be noted that the Hopkins Street bridge is to be removed as part of the ERMF project.	Please see responses to Durham Comments #6 and #7.
18	20	Buried Utilities, Electrical Zone of Influence Conflicts Volume 3, Section 8.11 "Utilities", Electrical Zone of Influence Conflicts Page 1052	With regards to existing buried utilities: This section addresses the possibility of an increase in potential impact to utilities crossing the rail ROW. Any new or proposed utilities should be encased in a casing (isolated from the pipe itself) and the casing (if metal) should be bonded to the railroad return system.	Existing utilities that have been identified solely as Electrical Zone of Influence conflicts may remain as-is and do not require mitigation action. Casing pipes are not a new Electrification requirement, just the grounding and bonding measures for new metallic crossings.
19	21	Grounding and Bonding Volume 3, Section 8.11 "Utilities", Mitigation/Avoidance Measures Page 1063	"Electrical zone of influence conflicts will be resolved by installing appropriate grounding and bonding measures..." There are several locations where this is not easily facilitated. There may be several locations where a new pipe with a casing needs to be installed to replace an existing ferrous watermain/sewer.	<p>For additional clarity, Section 8.11(2) Paragraph 3 will be updated as follows:</p> <p>Infrastructure that is considered an electrical zone of influence conflict is also a spatial conflict. The resolution for a spatial conflict (usually relocation) will also remove the utility from the electrical zone of influence and thus grounding and bonding will not be required. Existing utilities in the rail corridor outside of the electrical zone of influence may be grounded and bonded at the request of the owner but it is not a requirement for Electrification as the effects of stray current are anticipated to be minimal. Future utilities in the rail corridor outside of the electrical zone of influence should be grounded and bonded at installation.</p>
20	26	Consultation Vol.4	This volume covers the consultation process. Were meetings held with Durham Region Transit? No meetings were held with elected officials from Durham Region (not MPPs, not Mayors or Regional Chair). In one round of consultation no meetings were held in Durham. Although I know that the issue and inadvisability of the proposed terminus of the Lakeshore East RER at the current Oshawa GO Station was repeatedly brought up in the few meetings they did hold with us, it is not reflected in the summary of consultations. This is a significant issue and oversight.	<p>Confirmed – Volume 4 provides a summary of the consultation process followed for the Electrification TPAP project.</p> <p>With respect to meetings with Durham Region elected officials, Metrolinx met with Elected Officials as part of the Lakeshore East (Guildwood to Pickering) TPAP Project. In the interest of being inclusive, the Electrification Project was also discussed briefly at these particular meetings. With this in mind, EPR Volume 4 will be updated to make note of the following meeting details:</p> <ul style="list-style-type: none">January 5, 2016 Durham Regional Councillor Kevin AsheFebruary 12, 2016 MPP Tracy MacCharlesMarch 4, 2016 MP Jennifer O’Connell <p>Please also note that Durham Region Elected Officials are included on the Electrification Project Contact List and have been provided a number of project-related notifications to date including: Notice of Public Meeting Round #1 (Feb/Mar 2016), Notice of Public Meeting Round #2 (November 2016), and the Notice of Commencement/Notice of Public Meeting Round #3 (schedule for June/July 2017).</p> <p>Durham Region Transit is also included on the Electrification Project Contact List and have been provided with the Notice of Commencement/Notice of Public Meeting Round #3 (schedule for June/July 2017). A meeting was held with Durham Region staff in November 2015 to introduce and discuss the electrification project. Prasenjit Roy, Manager of Transportation Planning was in</p>

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p>attendance at this meeting as well as Roger Saunders, Christine Drimmie, Jennifer Simich, and Alex Georgieff from the Region of Durham.</p> <p>As part of the detailed design phase, construction phasing plans will be finalized. If any temporary effects to Durham Region Transit routes are anticipated to be affected by electrification construction works, Durham Region Transit will be notified/consulted accordingly.</p> <p>Please refer to Section 1.2.5.3.1 in Volume 4 which acknowledges lower tier and Durham Region questions/comments regarding the extent of electrification along the LSE Corridor.</p> <p>Per response to Comment #1, Metrolinx’s plans to date for the Lakeshore East GO corridor involve bringing frequent two-way, all-day electric train service to the existing Oshawa GO Station by 2024. It should be noted that the Traction Power Supply along the Lakeshore East corridor is being designed with Metrolinx’s long-term build out scenario in mind, and this includes the Oshawa-to-Bowmansville expansion.</p> <p>Further, while the GO Rail Network Electrification Project does not assess electrification east of the existing Oshawa GO Station, it does not preclude the provision of electrified service in the future. Outside of the Electrification TPAP, as part of ongoing discussions on the Lakeshore East GO expansion, Metrolinx has met with the Durham Region on two separate occasions (Oct 25, 2016 and March 9, 2017) and Durham Region Transit on March 9, 2017. Metrolinx plans to discuss station plans in greater detail in the near future and will further engage with Durham Region and Durham Region Transit.</p>
21	11	Municipal Permits & Approvals Volume 5, Section 1.3.3, Page 7	The introduction to this section states that Metrolinx is not subject to municipal permits and approvals. While this is generally true, provincial agencies do require approval from the Region (and other municipalities) to undertake work that directly affects our infrastructure (e.g., bridge or water/sewer line modifications), they must obtain Road Occupancy Permits for any work within a Regional ROW, and they must obtain a property access permit for any temporary or permanent access to a Regional road. These exceptions should be clearly identified in this section.	Discussion regarding permits in Volume 5 will be updated as required.
22	10	Bridge Ownership, Cultural Heritage Appendix C1, Appendix A: A-129, A-141, A-142, A-150	Ownership details are incorrect: A-129: Liverpool Road Bridge (over Highway 401 and GO tracks) is not owned by Durham Region. Ownership details should be revised to MTO or Rail Authority. A-141: Lakeridge Road Bridge (over Highway 401 and GO Tracks) is not owned by Durham Region. Ownership details should be revised to MTO or Rail Authority A-142: Henry Street Bridge (over GO tracks) is not owned by Town of Whitby. Ownership details should be revised to GO Transit A-150: Thicksen Road Bridge is not owned by Town of Whitby. Ownership details should be revised to Rail Authority.	Noted. Bridge ownership for both Liverpool Road and Lakeridge Road Bridges will be revised to Rail Authority based on existing board orders.
23	12	Bridges, Visual Appendix H1, Section 4.6.7, p. 85-86	See comment on Volume 2, Section 7.8.11, page 477-478. (Item 5)	See response to comment #5.

Item No.	Durham Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
24	13	Bridges, Visual Appendix H1, Section 4.6.8, p. 87	See comment on Volume 2, Section 7.8.12, page 479. (Item 6)	See response to comment #6.
25	14	Bridges, Visual Appendix H1, Appendix F: Figure F-19, F-23, F-24, F-25	Figure F-19 and F-25: Pedestrian Bridges (at Pickering GO and Whitby GO stations) are not labelled. Figure F-23 and F-24: Bridges at Carruthers Creek and Lynde Creek are not labelled.	Maps will be updated accordingly.
26	15	Bridges, Visual Appendix H2, Section 3.6.11, p. 148, "Bridges/Rail Overpasses"	See comment on Volume 3, Section 8.10.10, p. 1043, "Bridges/Rail Overpasses". (Item 7)	See response to comment #7.
27	16	Bridges, Visual Appendix H2, Section 3.6.12, p. 152, "Bridges/Rail Overpasses"	See comment on Volume 3, Section 8.10.11, p. 1046-1047, "Bridges/Rail Overpasses". (Item 8)	See response to comment #8.
28	17	Bridges, Visual Appendix H2, Section 3.6.13, p. 155, "Bridges/Rail Overpasses"	See comment on Volume 3, Section 8.10.12, p. 1049, "Bridges/Rail Overpasses". (Item 9)	See response to comment #9.
29	18	Bridges, Visual Appendix H2, Appendix F, Figure F-19 and F-25	Pedestrian Bridges (at Pickering GO and Whitby GO stations) are labelled with incorrect symbol.	Maps will be updated accordingly.
30	19	Bridges, Visual Appendix T, Appendix F, Figure F-19 and F-25	Pedestrian Bridges (at Pickering GO and Whitby GO stations) are labelled with incorrect symbol.	See response to comment #18.

Table 1-36: Region of Halton Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
HALTON REGION			
1	EMI/EMF	<p>Volume 5, Section 1.14</p> <p>The Mitigation Plan will need to confirm that any associated rail corridor electromagnetic/electrical fields do not interfere with The Region's existing remote SCADA system controls, planned Intelligent Transportation System, electrical equipment within pumping stations/treatment plants, etc.</p>	<p>As outlined throughout the EMI/EMF Impact Assessment Report (Appendix J) and in EPR Volume 3, generally speaking, the scope of the EMC assessment work carried out as part of the Electrification TPAP involved measurement of baseline EMI/EMF levels at various locations along the rail corridors and traction power facility sites in order to establish baseline conditions. In addition, EMI sensitive locations in the study area were identified and documented. Following this, a net effects analysis was completed to make a preliminary determination as to whether the proposed electrification infrastructure may result in adverse EMI/EMF effects. These results are summarized in detail in EMI/EMF Impact Assessment Report (Appendix J). Furthermore, the baseline measurements taken at the TPAP stage will be reviewed and verified as part of the detailed design phase of the project in order to ensure/confirm that there will be no adverse EMI/EMF effects due to electrification and appropriate mitigation is implemented as required.</p> <p>Furthermore, several specific commitments are outlined in EPR Volume 5, Section 1.14, including the preparation and implementation of an Electromagnetic Compatibility (EMC) Control Plan, Frequency Management Plan, compliance with requirements as outlined in EN 50121, IEEE C63.12, AREMA Signaling and Control Manual 11.5.2, IEC 61000 and other relevant EMC standards by product manufacturers, and commitment to field testing and verification of overall ELF and RF emissions emanating from the GO electrified railway system as a whole (including emissions from the electrified tracks, OCS, TPFs, RRMF, and electric trains) to ensure EMFs are within the limits of applicable industry standards during the electrification commissioning phase. Refer to Volume 5, Section 1.14 for further detail.</p> <p>In addition to this, please confirm that the Region’s systems, equipment etc. have appropriate measures in place that protect these assets from any potential EMI interference effects as per relevant codes and guidelines. Also kindly confirm that the Region ensures measures to deal with EMI and EMC are in place and that relevant codes and guidelines have been adhered to and incorporated into the design of the Region’s systems, equipment etc.</p>
2	Utilities	<p>Volume 1, Section 3.6.10.4 Volume 2, page Ixxi</p> <p>The 600mm watermain shown on Maplegrove Drive adjacent to the Oakville site is privately owned by Ford Motor Co., and is not connected to our water system. Ford Motor Co. should be contacted by Metrolinx to review any potential impacts to their watermain (as per Halton Region email to Rebecca Stanzeleit, Metrolinx on Mar 15, 2016).</p>	<p>To date, Metrolinx has been unable to successfully make contact with Ford Motor Co. The owner of this watermain will be changed to “Unknown” in the Electrification EPR until ownership is confirmed.</p>
3	Utilities	<p>Volume 1, Section 3.6.10.4 Volume 2, page Ixxi</p> <p>Metrolinx will be required to comply to the minimum clearance requirements between watermain and sewers as outlined in the Region's Water & Wastewater Linear Design Manual (provided to Rebecca Stanzeleit, Metrolinx via email on Feb 26, 2016). Clearance requirements between other infrastructure shall be in accordance with the Local Area Municipality's Standard Drawings and/or consultation with the Local Municipalities and utilities.</p> <p>Halton Region provided details regarding existing/future planned buried water and wastewater infrastructure to Metrolinx (via email to Rebecca Stanzeleit, Metrolinx via email on Mar 15, 2016) to ensure any potential impacts to this infrastructure is mitigated during planned TPS construction.</p>	<p>Acknowledged. The Water & Wastewater Linear Design Manual has been included in the utilities standards database and will be referenced during design. All designs will be submitted to Halton Region, the Local Municipality, and other infrastructure owners as necessary for review for compliance with their current design standards and requirements.</p> <p>The information provided by Halton Region has been included in the utilities database and base maps. Any potential conflicts between the Region’s infrastructure and the planned Electrification infrastructure have been identified and the Electrification Third Party Utilities group will initiate a mitigation measures discussion with the Region as necessary.</p>
4	Utilities	<p>Volume 1, Section 3.6.10.3 Volume 2, page Ixiii</p> <p>Metrolinx will be required to comply to the minimum clearance requirements between watermain and sewers as outlined in the Region's Water & Wastewater</p>	<p>The Water & Wastewater Linear Design Manual has been included in the utilities standards database and will be referenced during design. As applicable, designs will be submitted to Halton Region, the Local Municipality, and other infrastructure owners as necessary for review for compliance with their current design standards and requirement.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Linear Design Manual (provided to Rebecca Stanzeleit, Metrolinx via email on Feb 26, 2016). Clearance requirements between other infrastructure shall be in accordance with the Local Area Municipality's Standard Drawings and/or consultation with the Local Municipalities and utilities.	
5	Utilities	<p>Volume 1, Section 3.6.10.3 Volume 2, page Ixiii</p> <p>The proposed Burlington TSP location does have a 900mm Concrete Pressure Pipe on the west side of the property (Easement #272) which currently serves as a critical large diameter water feedermain to Burlington. Any potential impact to this watermain should be review with Halton Region and adequately mitigated by Metrolinx during the planned TPS construction.</p> <p>Halton Region provided details regarding existing/future planned buried water and wastewater infrastructure to Metrolinx (via email to Rebecca Stanzeleit, Metrolinx via email on Mar 15, 2016) to ensure any potential impacts to this infrastructure is mitigated during planned TPS construction.</p>	The Water & Wastewater Linear Design Manual has been included in the utilities standards database and will be referenced during design. All designs will be submitted to Halton Region, the Local Municipality, and other infrastructure owners as necessary for review for compliance with their current design standards and requirements.
6	Bridge Modifications	<p>Volume 1, Section 3.9.6.2, pages 148,150,151,152</p> <p>Any supporting infrastructure required to modify bridge structures (rail overpasses) on Regional Roads (Trafalgar Road, Regional Road #25 (Bronte Road), Appleby Line, Ford Drive, Guelph Line, Brant Street, Dorval Drive, Winston Churchill Blvd) should be reviewed with Halton Region.</p> <p>Specifically, Metrolinx is requested to review impacts to the structure on Regional Roads, including associated impact mitigation measures with Halton Region.</p> <p>In addition any corresponding financial impacts related to ongoing operation and maintenance of structures that have been modified will be required.</p>	Acknowledged. Further review and discussion regarding bridge attachments and maintenance agreements will be undertaken with the Town during detailed design.
7	General Transit Planning	<p>Volume 1, Section 3.9.6.2, pages 148,150,151,152</p> <p>Within the limits of the limits of the GO Lakeshore west Line, Halton Region has three planned roads capital projects which include:</p> <ul style="list-style-type: none">- Appleby Line Widening (4to 6 lanes) from Fairview Street to Taywood Drives - proposed start of construction 2024- Burloak Drive Widening (4 to 6 lanes) from Harvester Road to Upper Middle Road - proposed start of construction 2029- Region Road 25 (Bronte Road) Widening from Speers Road to Highway 407 - proposed start of construction 2025 <p>Municipal Class Environmental Assessment Studies will be required and undertaken by Halton for the above noted capital improvements. Coordination with Metrolinx will be required. It should be further noted that the Region is planning to undertake the next Transportation Master Plan (to 2041) commencing in 2018 which is to be prepared as a multi-modal Transportation Master Plan. Please note that future network requirements will be further reviewed as part of the next master plan.</p>	<p>These planned Halton Region projects have been noted in the Land Use and Socio-Economic Reports (Appendix E). The Utilities Report (Appendix I) will also be updated to include these planned projects.</p> <p>Consultation with the Region will be required during detailed design to discuss the progress of the Municipal Class Environmental Assessment and to finalize design details related to road and bridge projects. In addition, it should be noted that OCS attachments may be required in cases where bridges are widened.</p> <p>Based on the study area description provided, the Burloak Drive Widening from Harvester Road to Upper Middle Road is not proposed to be undertaken over the LSW Rail Corridor. Therefore, no impacts as a result of the GO Rail Network Electrification would be anticipated.</p> <p>As the Region’s planned capital projects progress, it is acknowledge that coordination with Metrolinx will be required.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
8	Bridge Modifications	<p>Volume 1, Section 3.9.6.2, pages 148,150,151,152</p> <p>Metrolinx will be required to undertake further dialog with each municipality/bridge owner to reach an agreement regarding ownership and maintenance of any new infrastructure introduced during bridge modification, such as bridge barriers/screening, flash plates, drop pipes, etc. Any changes/modifications from the original board order/agreement should be made through an agreement.</p>	<p>Acknowledged. Further review and discussion regarding bridge attachment/maintenance agreements, will be undertaken with the Region or Town during detailed design.</p>
9	Land Use – Natural Environment	<p>Volume 3, Section 4.5.5.1 pages 175, 176</p> <p>Ongoing discussions should take place with the Town of Oakville to ensure that the incompatible land use being proposed for the Oakville SWS does not negatively impact future employment in the QEW East employment area or the nearby Joshua's Creek feature of the Regional Natural Heritage System</p>	<p>As noted in the Section 4.5 of EPR Volume 3 the proposed Oakville SWS station site is owned by Metrolinx. As Crown Agencies, Metrolinx and Hydro One are not subject to municipal approvals. However, further coordination (which may include a series of meetings, discussions, and agreements) with the Town of Oakville will be undertaken during detailed design to finalize design details for the facility.</p> <p>It should be noted that the Project Team previously met with Town of Oakville staff on December 8, 2015 to discuss the project, including the location of the proposed Oakville SWS site. No concerns with incompatible land uses were raised during the meeting.</p> <p>Metrolinx also provided a municipal package on November 8 2016 with details of the proposed Oakville SWS site, and no concerns with land use was raised in the Town's response received December 6 2016.</p>
10	Land Use	<p>Volume 3, Section 4.5</p> <p>Coordinate with the City of Burlington and Town of Oakville to ensure that the Burlington TPS an Oakville SWS fit in with existing land uses and do not limit future employment uses by the municipalities</p>	<p>As noted in Section 4.5 of EPR Volume 3 for both proposed Burlington TPS and the Oakville SWS, further coordination (which may include a series of meetings, discussions, and agreements) with the Town of Oakville and City of Burlington will be undertaken during detailed design.</p> <p>The proposed Oakville SWS site is zoned Business Employment, which permits a wide range of employment, retail, service, community, hospitality, and motor vehicle uses, as well as outside storage of railway and transport truck containers, provided such storage is not unsightly. Permitted uses in this area neither include nor preclude public utilities.</p> <p>The proposed Burlington TPS and Tap location is located within the City of Burlington in an area currently designated as open space; the facility will be located next to Hydro One's existing Cumberland Transmission Station (TS). The property is zoned Utility Services, which permits transportation, communication and utility uses; the TPS and Tap are thus not in conflict with current zoning designations and adjacent land uses.</p> <p>As Crown Agencies, Metrolinx and Hydro One are not subject to municipal approvals. However, further coordination (which may include a series of meetings, discussions, and agreements) with the Town of Oakville will be undertaken during detailed design.</p>
11	Land Use	<p>Volume 1, Section 3.5.1.2, pages 45,46</p> <p>Coordinate between with Metrolinx and the City of Burlington to ensure the Burlington TPS is does not impact the potential future GO Station at Walkers Line/Cumberland identified in Metrolinx's New Station Analysis</p>	<p>As noted in Section 4.5 of EPR Volume 3 for the proposed Burlington TPS, further coordination (which may include a series of meetings, discussions, and agreements) with the City of Burlington will be undertaken during detailed design.</p> <p>The proposed Burlington Tap/TPS does not preclude the potential future GO station at Walker's Line.</p>

Table 1-37: Region of Peel Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
PEEL REGION			
1	Utilities	<p>Thank you for sending the GO Rail Network Electrification TPAP report to us last week. Members of water and wastewater Program Planning at the Region of Peel were provided the report to review. At this time there is not a lot of concern or feedback from them, other than they to ask for continual involvement and project updates as the project proceeds especially with the detail design phase. With respect to the Bramalea PS site, the Region of Peel does have Water and Sanitary assets running near the south end of the lot, by Steeles Ave E.</p> <p>We also want to inform the Electrification Project Team that the Region of Peel has provided additional information in January to the project team at Morrison Hershfield. This information involved the identification of several additional water and wastewater pipes that run parallel or cross the Go Rail ROW. We do not yet know if the additional assets identified will pose any type of conflict.</p>	<p>Noted. Discussions regarding the project’s design, including the Bramalea PS will continue during detail design.</p> <p>The information previously provided by Peel Region has been included in the utilities database and base maps. Any potential conflicts between the Region’s infrastructure and the planned Electrification infrastructure have been identified in the Utilities Impact Assessment Report (see Appendix I) and the Electrification Third Party Utilities Team will initiate a mitigation measures discussion with the Region as necessary.</p> <p>The EPR will be updated as appropriate with the recent information received from Peel Region in January.</p>

Table 1-38: Region of York Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
YORK REGION			
1	Infrastructure Siting	EPR Vol 1 Figure 3-46 Proposed Maple Paralleling Station in conflict with existing regional 1200mm watermain (Region contract W-T0530)	The information provided by York Region (including this watermain) has been included in the utilities database and base maps. The existing regional 1200mm watermain is within the property boundaries of the parcel identified for the proposed Maple Paralleling Station. This does not necessarily mean that the watermain is a definite conflict. To clarify, the information from all utility owners in the area, including York Region, was compiled in a utilities database and base map that will be used to refine the engineering of all proposed facilities during the detailed design phase. The general intent is for a design that minimizes impact to existing utilities. It appears that this 1200mm WM is within a utility corridor along with other utilities in the area, and therefore, efforts will be made during detailed design to situate the Paralleling Station such that it doesn't overlap with these existing utilities to the extent possible. If a direct conflict with the watermain is identified during detailed design, the Region will be consulted with regard to possible mitigation measures.
2	Utilities	EPR Vol 1 Section 3.15.11 OCS support foundations will extend approximately 5m below grade. Depending on the offset of the foundations from property line, excavation for these foundations could impact the subsurface zone of influence of existing regional wastewater infrastructure parallel and adjacent to the Metrolinx ROW. This infrastructure includes a 1050mm sanitary sewer between Mile 31.28 (St. John's Sideroad) and Mile 32.75 (Mulock Drive) as well as an 850mm sanitary sewer between Mile 34.20 (Newmarket GO Station) and Mile 34.89 (Newmarket Pedestrian Crossing)	The Contractor will discuss clearance requirements with York Region prior to construction to mitigate potential negative impacts to the Region's infrastructure.
3	Utilities	Has a stray current survey been conducted on utilities along the project route. We will need confirmation that regional water and wastewater infrastructure in the immediate vicinity of the proposed electrification will not be detrimentally affected by stray current entering the ground and ultimately causing watermain and sewer corrosion.	Stray current is not an issue in an AC electrified environment. The electrification infrastructure Metrolinx is proposing building is a 2x25 kV AC system. In the case of AC traction, the earth (ground) is a part of the intended return current path for AC traction. Therefore, there is no stray current flow through the ground associated with AC traction. As a result, no corrosion of buried metallic bodies along the path of the return current is anticipated with respect to electrification of the GO Network.
4	Utilities	The 850mm and 1050mm sanitary sewers identified in Item No. 2 were not picked up in the SUE investigation conducted for the Barrie Corridor Expansion project. Will SUE investigation be conducted as part of the electrification project as well, including at these 2 locations? If not, is the intention for Metroinx to coordinate distribution of base engineering drawing details among the consultants managing their various projects currently underway? Should the request for these additional SUE details be directed to the Barrie Corridor Expansion project consultant, Hatch, despite the fact that these details aren't required under their scope of work?	<p>These two sanitary sewers are beyond 20m from the track and no impacts due to Electrification are anticipated.</p> <p>SUE investigations may be completed for utilities located within critical sections of the Electrification program, i.e. near overpass structures, track interlockings, stations, etc. For utilities outside of these areas no further action is required beyond verifying the location of the infrastructure based on record drawings. Requests for additional information based on the SUE investigation completed by the Barrie Corridor Expansion project should be made to the Metrolinx Project Manager for that project.</p> <p>Yes, it is Metrolinx's intention to coordinate distribution of base engineering drawing details among the consultants managing their various projects currently underway.</p>
5	General Comment	EPR - Volume 1, Executive summary - Page xxxiv, and Corridor Assumptions pg 32 under the Barrier Corridor Will design of the corridor also incorporate new station at Kirby and Keele in Vaughan, and Mulock in Newmarket?	The scope of the Electrification TPAP has considered existing GO stations or stations which had EA approval at the time of preparing the EA. Electrification does not prevent these new stations from being constructed in the future. Separate EAs/TPAPs will be necessary and will be undertaken in the future for the new GO stations proposed along the Barrie Corridor in Vaughan and in Newmarket as outlined in Section 3.13 of Volume 1. Figure 1-1 in EPR Volume 1 will be updated to include description/map of approved new stations.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
6	General Comment	<p>EPR - Volume 1, Executive summary - Page xxxiv, and Corridor Assumptions pg 32 under the Barrier Corridor</p> <p>The conceptual design did not account for the recently announced new GO stations on the Barrie GO rail corridor at Kirby GO in Vaughan and at Mulock GO in Newmarket. How will the EPR and subsequent designs accommodate these two new GO stations?</p>	See response to comment #5
7	Visual Impact	<p>EPR - Volume 1, Executive summary - Page xxxvii under Bridge Barrier Design Options</p> <p>We recommend the Metrolinx Design Excellence Committee includes a joint design review panel that includes Metrolinx, York Region, and the local municipality for visually sensitive areas. For example, on the Barrie GO rail corridor, the Major Mackenzie Drive rail bridge in the City of Vaughan requires a context-sensitive design that can be developed working together to agree on a common design vision that mitigates impacts on the adjacent historic Village of Maple and the Vaughan Civic Centre. Another location requiring context-sensitive design is on the Barrie GO rail corridor at the Yonge Street rail bridge in the Town of Aurora. The rail bridge is located just south of the historic town of Aurora.</p>	<p>Acknowledged.</p> <p>As outlined in Section 3.9.3.1 as part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/option for enhancing the aesthetics of bridge barriers where feasible/required. It is anticipated that the basis of the protection barrier will be a post and panel (solid-faced) design with customizable panels toward suiting visual preferences (in consultation with the applicable bridge owners as appropriate), such as:</p> <ul style="list-style-type: none">• Multilane, restricted access highways and non-visually sensitive locations;• Visually sensitive locations;• Structures of heritage value or sensitivity. <p>Section 3.64 will be augmented to provide an additional example of a bridge barrier that may be considered/implemented in a visually sensitive location.</p>
8	Noise and Vibration Mitigation	<p>Please consider design and construction coordination with future Region road projects (as identified in the Transportation Master Plan 2016) that intersect with rail line projects where both Region and Metrolinx noise mitigation barriers may be located in the same areas should construction timing occur at the same time.</p>	<p>Noted. Further discussions and coordination will be undertaken with municipalities during detail design with respect to the Project’s design and construction schedule.</p>

Table 1-39: Town of Aurora Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF AURORA			
1	Trail Linkages	The Town has commented to Metrolinx the importance of having grade separated pedestrian facilities to implement the Council approved Trails Master Plan. The Master Plan has identified a number of locations that the Town would like to pursue as part of the Rail Expansion Project. Some of these locations are Yonge Street (at the rail overpass), the crossing at Cousins Drive, and the pedestrian crossings identified across the GO Transit line south of Henderson Drive. Aurora Council is requesting Metrolinx pay to construct the pedestrian crossings in the Town of Aurora.	<p>Please note that no grade separations are proposed as part of the GO Rail Network Electrification project and are therefore not in the scope of the current Electrification Transit Project Assessment Process (TPAP).</p> <p>As shared infrastructure, grade separated trails and pedestrian crossings are partnership efforts and require municipal consultation and agreement. Discussions have been underway and will continue between Metrolinx and municipalities to identify potential priority locations.</p> <p>Metrolinx is open to working with the Town of Aurora on a possible cost-sharing arrangement for the design and construction of pedestrian crossings at Cousins Drive and/or Henderson Drive. A multi-use path at the Yonge Street rail overpass will be explored as part of the addition of the second bridge by the Barrie Rail Corridor Expansion (BRCE) Project.</p>
2	Parking availability to serve GO commuters:	The Rail Expansion Project is expected to bring a high number of commuters to the Town, which will result on an increase in parking demand. Metrolinx advises that it has been actively working on land acquisition in order to provide needed parking spaces. Metrolinx has mentioned that it will provide 1,000 additional spots by the 2030 timeline. Staff have also advised Metrolinx of the Town’s strong preference to not underutilize large areas as surface parking, but to provide structured parking, either as an addition to the existing parking garage or with a new structure. The lands surrounding the GO station are part of the Promenade Intensification Plan and redevelopment in the area will occur over time.	<p>In late 2016, the Metrolinx Board of Directors approved the GO Rail Station Access Plan (see link below) which is the update to the 2013 Station Access Plan. The recommended target for 2031 in the medium-term is: add 1,750 spaces via alternative parking solutions for a total of 3,220 spaces. Metrolinx will continue to work with Town staff on alternative parking arrangements.</p> <p>As you know, Metrolinx is working with the Town of Aurora to finalizing the Parking Utilization Study, which is looking at parking availability in nearby Town-owned properties. The study is looking to see if there’s capacity for shared use between the Town and Metrolinx.</p> <p>While adding parking at our stations is important, it’s also important that we look to the future at long-term solutions for station access. This includes working with municipalities on “First mile, Last mile” connections with local transit, and bicycle and pedestrian access to stations. It’s all part of our regular discussion with Town staff.</p> <p>http://www.metrolinx.com/en/regionalplanning/projectevaluation/studies/GO_Rail_Station_Access_Plan_EN.pdf</p>
3	Parking availability to serve GO commuters	In partnership with the Town, Metrolinx is conducting a parking utilization study to identify available parking spaces that can be leased to Metrolinx. This study was requested as a consequence of Metrolinx leasing Our Lady of Grace Church parking lot and the concerns raised by neighbouring residents regarding increased traffic in the area. The Our Lady of Grace Church parking lot utilization has been in the order of only 10 to 15 percent, which represents 15 to 25 vehicles parked daily	Acknowledged. See response to Comment #2.
4	The proposed grade separation on Wellington Street East:	Staff have expressed concerns with respect to potential impacts on the community context with a grade separation in this location and the ability to implement the Promenade Plan. There are a number of heritage properties along the Wellington Street corridor and the proximity to the Northeast Old Aurora Heritage Conservation District.	<p>Acknowledged.</p> <p>The proposed Wellington Street East grade separation is part of the GO Regional Express Rail (RER) Program, approved, subject to receiving confirmation of municipal agreement. Metrolinx has held discussions over the past year with municipal counterparts where locations have been identified for priority grade separation projects.</p> <p>Metrolinx will continue to work with municipal counterparts to design and construct priority grade separations as identified. This work will include an environmental assessment (EA) where required, design, procurement and completion of funding agreements. Specific technical studies, including heritage studies, to assess impacts, along with public consultation will be completed as part of the EA.</p> <p>Please note that the proposed Wellington Street East Grade Separation is not part of the Electrification TPAP or any ongoing environmental assessment at Metrolinx. Heritage considerations are an integral part of Metrolinx environmental assessments and the Electrification TPAP has considered impacts to heritage structures as relevant.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
5	The proposed grade separation on Wellington Street East:	This project will have significant impacts including; land acquisition, grading, construction activity, traffic rerouting, Berczy Street access impacts, cultural heritage evaluation and impacts to the implementation of the Promenade Secondary Plan.	See response to comment #4.
6	Communication & Public Education	Construction activities planned by Metrolinx will have significant impacts on the Town of Aurora in future years. There is a need for Metrolinx to improve their communication and public education programs to assist Council and staff to better anticipate and respond to their activities.	<p>We couldn't agree more. Metrolinx recognizes that with new infrastructure and construction comes impacts to the community that must be worked through with residents and their elected officials.</p> <p>A regional Municipal and Community regional tour is currently underway that creates an annual schedule for getting to every municipal council and for providing a comprehensive narrative for residents of each municipality that details what this program will look like locally.</p> <p>We are developing a community charter which will commit the organization to building the regional transportation system in a way that is respectful of the communities it touches. This is in addition to the standard community relations support that we have traditionally provided on the ground on projects like Georgetown South and the Eglinton Crosstown.</p> <p>Metrolinx is aware of the need to work with the community through the process of EA, design and especially building new infrastructure. We are looking to work with you to help understand the needs of your communities and be in front of them. With projects at varying stages in the life cycle, we want to be clear that community engagement and feedback will be included in every stage.</p> <p>Our team has been reaching out to municipal communication counterparts to ensure that information is shared and that as partners, relationships are established that will support each other as the program moves forward.</p> <p>Outreach Opportunities:</p> <ul style="list-style-type: none">• Will work with municipal staff and residents through the feasibility, design, procurement & construction phases of each project• Community Relations officers are assigned to each corridor as main point of contact• Regular meetings and outreach will be established with local elected officials & community stakeholders on specific projects• Work with community to understand key issues & identify local needs• Hold pop-up engagements in the community• Work with your municipal communications department to share information with residents as projects progress
7	RER	Metrolinx is creating significant infrastructure within Aurora as part of its Rail Expansion Project along the Barrie corridor from Toronto to Barrie through the Town of Aurora. The long term benefit will be realized; however there will be a significant impact to the community as various projects are undertaken.	<p>Acknowledged. Metrolinx will continue to keep the Town of Aurora engaged on planned infrastructure projects along the Barrie corridor. Through the Electrification TPAP process, we have been able to identify potential impacts from the project and the measures required to mitigate the anticipated impacts. These measures, as outlined in the EPR Vol. 3 and Vol. 5, will be implemented throughout the course of the project.</p> <p>Please note that the ongoing Barrie Rail Corridor Expansion TPAP is also assessing potential impacts and identifying measures to mitigate impacts arising from the proposed infrastructure works associated with that project.</p>
8	Traffic Operations	Town staff have been meeting with Metrolinx on a regular basis to review and provide comments on various studies. It is anticipated that the proposed work by Metrolinx will have a significant impact on traffic operations in the Town, therefore staff is working closely with Metrolinx regarding the work taking place within Aurora.	<p>Acknowledged. Traffic plans will be shared with the Town. Potential traffic impacts resulting from the construction of the electrification components (e.g., overhead contact system, bridge modifications and traction power facilities) are anticipated to be temporary, short-term, localized in nature, and will cease once construction has been completed.</p> <p>In addition, Construction Management Plans as well as Traffic Management Plans will be developed and implemented during construction and will take into consideration applicable legislation as appropriate.</p>

Table 1-40: Town of Bradford West Gwillimbury Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF BRADFORD WEST GWILLIMBURY			
1	General GO Transit Planning	<p>With respect to the layover facility proposed near the Artesian Industrial Pkwy, Town staff have met with Metrolinx staff and recommended an alternate location. A response has been received that Metrolinx plans to go ahead with their preferred location and continue to undertake further analysis of the alternate location which if feasible, will be considered as an addendum. Further to this response, Bradford West Gwillimbury Council has adopted the attached resolution sent to Metrolinx. We request that Metrolinx continue to evaluate the alternate location as proposed by the Town as part of the current EA process as one of the primary locations and not defer this to a potential future addendum.</p> <p>With respect to the Artesian Industrial site, please note that the Town has an easement for storm water management across the properties at 155, 135, 125 Artesian Industrial Parkway. Should the layover continue to be considered a this location, the impact of losing this facility and remediation will be required. Also, although Metrolinx is exempt from site plan control, The Town would like an opportunity to review site plan drawings to ensure issues such as landscaping, screening, berm design set back and building facades are considered.</p>	<p>The Barrie Rail Corridor Expansion (BRCE) Environmental Project Report (EPR) includes the Artesian Industrial Parkway site as the preferred layover location, with reference to the 9th Line site as an alternative location under review, pending further work. As per recent discussions with Bradford elected officials and staff, Metrolinx is continuing to review the feasibility of the 9th Line site. Field work to assess the 9th Line site in detail is planned for summer 2017 (e.g. wildlife/vegetation surveys, wetland staking).</p> <p>In an effort to not delay the current project schedule, the BRCE draft EPR was circulated to external stakeholders including the Town of Bradford West Gwillimbury for review and comment, prior to formally initiating the TPAP. The NOC was issued on May 11, 2017. Following completion of the TPAP, planned for summer 2017, if the 9th Line site is deemed feasible, an Addendum to the EPR will be undertaken. Metrolinx Realty Services will engage the respective property owners to confirm property requirements at that time.</p> <p>Metrolinx will continue to work with the Town of Bradford West Gwillimbury on this matter through the Barrie Rail Corridor Expansion project. The GO Rail Network Electrification project considered the Artesian Industrial Parkway site.</p>
2	Noise and Vibration Mitigation	<p>The noise study notes that noise walls were not technically feasible. We would like a further explanation that outlines the technical details on why this is not technically feasible and what analysis was done to support this conclusion</p>	<p>As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, noise impacts from the future GO Transit rail traffic were expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels. For both the diesel Regional Express Rail (RER) service and the electric RER service, the pre-project noise levels were taken to be the existing noise levels, associated with present-day rail traffic on the corridor.</p> <p>The desirable objective as defined in the MOEE/GO Transit Protocol is that the daytime equivalent sound level (LEQ) (16-hr, 0700h-2300h) produced by future rail service operation of the project under assessment should not exceed the higher of:</p> <ul style="list-style-type: none">• The daytime ambient sound level, combined with the sound level from existing rail activity; or• 55 dBA LEQ (16-hr). <p>Furthermore, the nighttime LEQ (8-hr, 2300h-0700h) produced by the future GO Transit rail service operation of the project should not exceed the higher of:</p> <ul style="list-style-type: none">• The nighttime ambient sound level, combined with the sound level from existing rail activity; or• 50 dBA LEQ (8-hr). <p>According to the MOEE/GO Transit Protocol, the Adjusted Noise Impacts associated with the rail operations shall be rated with respect to the objectives as follows:</p> <ul style="list-style-type: none">• Insignificant: Adjusted Noise Impacts between 0 and 2.99 dB;• Noticeable: Adjusted Noise Impacts between 3 and 4.99 dB;• Significant: Adjusted Noise Impacts between 5 and 9.99 dB; and• Very significant: Adjusted Noise Impacts above 10 dB. <p>In cases where the Adjusted Noise Impact at a receptor is considered “significant” or “very significant” mitigation of the sound levels was investigated and evaluated for technical feasibility. Technical feasibility refers to the ability of a mitigation measure to achieve a significant noise reduction (at least 5dB) at the intended impact locations.</p> <p>To clarify, ‘not technically feasible’ refers to the fact that a 5 metre high noise wall would not reduce noise by at least 5 dB per the Protocol. The Final EPR will only show the recommended technically feasible noise wall locations, including height and lengths, as only technically feasible noise walls will be considered for implementation during detailed design. The non-technically feasible noise walls will not be included in the Final EPR. Noise mitigation will be further reviewed as part of detailed</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																																										
			design. This further analysis will consider the administrative, operational, and economic feasibility of the recommended noise barriers as per the Protocol. As part of this process, Metrolinx will consult with municipalities and local residents to provide updates on decisions made and implementation of any proposed noise mitigation measures as required.																																										
3	Track Crossings	<p>The Town has several at-grade crossings that will be impacted by the future widening of the tracks and electrification proposal. All agreements for these crossings should be revisited and updated to fully reflect changes at these crossings. Furthermore, any physical changes that would further impact pedestrian or vehicular crossings, should be fully addressed as part of the planned changes. The Town should not be encumbered or impacted with additional costs in the future with respect to these crossings as a result of the planned widening and/or electrification plans. This includes changes to gates, lights, bells and possible increased width for pedestrian crossing that could reasonably be required in the future. Updated agreements should include conditions to this effect.</p> <p>The crossing at the Holland River will require structural changes to accommodate track widening and electrification. As part of this work, the Town is requesting that Metrolinx remove piles from the river that were left in place the last time this structure was put in place. In the past, piles were cut off and left a few feet below the water surface. This impacts navigation, the natural condition of the river and potential impact to fish life.</p>	<p>Metrolinx is committed to ensuring that all aspects of our operations are safe, including level crossings. Metrolinx is working closely with its road authority partners and has initiated a process to ensure all crossings are upgraded where required to meet or exceed the new Transport Canada regulatory requirements.</p> <p>Metrolinx is reviewing all existing road-rail crossings to ensure that they continue to be safe with the planned GO service increase. The four key criteria for the assessment include: usage and existing conditions, operations, social/environmental and cost/constructability. Usage includes “exposure index,” a standard measure of traffic volumes typically used by transportation agencies in crossing assessment. As shared infrastructure, grade separations are typically cost shared between the rail and road authority, and the Canadian Transportation Agency has guidelines which can help to inform cost apportionment with projects. If a project is determined to be required, Metrolinx will work with the municipality to arrive at an agreement.</p> <p>For the GO Rail Network Electrification EA, at-grade crossings and grade separations are outside the scope of the Electrification TPAP.</p> <p>For the BRCE project, at-grade crossings within the Town of Bradford West Gwillimbury that intersect the Newmarket Subdivision will currently not be impacted by the planned Phase 1 works for a second track along the Barrie Corridor. Phase 1 detailed design limits are currently to Mile 36.00, just north of Green Lane E in the Town of East Gwillimbury. Future phases for the addition of a second track north of Mile 36.00 have been illustrated on the BRCE preliminary design plans (circulated with the BRCE draft EPR), noting the southerly limit of the Town of Bradford West Gwillimbury at Mile 41.00 (Holland River). A list of the at-grade crossings located within the Town’s limits are provided below.</p> <table><tr><th>Mile</th><th>Crossing Type</th><th>Crossing</th></tr><tr><td>41.02</td><td>Road At-Grade</td><td>(private)</td></tr><tr><td>41.25</td><td>Road At-Grade</td><td>(private)</td></tr><tr><td>41.39</td><td>Road At-Grade</td><td>Given Road</td></tr><tr><td>41.49</td><td>Ped Walk At-Grade</td><td>Bradford GO Station</td></tr><tr><td>41.56</td><td>Ped Walk At-Grade</td><td>Bradford GO Station</td></tr><tr><td>41.96</td><td>Road At-Grade</td><td>(private MOECC)</td></tr><tr><td>42.26</td><td>Road At-Grade</td><td>Industrial Road</td></tr><tr><td>43.37</td><td>Road At-Grade</td><td>9th Line (Scanlon Creek Rd)</td></tr><tr><td>44.34</td><td>Road At-Grade</td><td>10th Line</td></tr><tr><td>44.86</td><td>Road At-Grade</td><td>Farm Xing</td></tr><tr><td>45.37</td><td>Road At-Grade</td><td>11th Line (Coulson’s Hill Rd)</td></tr><tr><td>46.29</td><td>Road At-Grade</td><td>12th Line</td></tr><tr><td>47.21</td><td>Road At-Grade</td><td>13th Line</td></tr></table> <p>The Holland River Bridge crossing (Mile 41.00 of GO Newmarket Subdivision) will require an additional independent structure in the future when the second track will be constructed as shown in the BRCE draft EPR. The existing structure will remain in place to support the existing single track.</p>	Mile	Crossing Type	Crossing	41.02	Road At-Grade	(private)	41.25	Road At-Grade	(private)	41.39	Road At-Grade	Given Road	41.49	Ped Walk At-Grade	Bradford GO Station	41.56	Ped Walk At-Grade	Bradford GO Station	41.96	Road At-Grade	(private MOECC)	42.26	Road At-Grade	Industrial Road	43.37	Road At-Grade	9th Line (Scanlon Creek Rd)	44.34	Road At-Grade	10th Line	44.86	Road At-Grade	Farm Xing	45.37	Road At-Grade	11th Line (Coulson’s Hill Rd)	46.29	Road At-Grade	12th Line	47.21	Road At-Grade	13th Line
Mile	Crossing Type	Crossing																																											
41.02	Road At-Grade	(private)																																											
41.25	Road At-Grade	(private)																																											
41.39	Road At-Grade	Given Road																																											
41.49	Ped Walk At-Grade	Bradford GO Station																																											
41.56	Ped Walk At-Grade	Bradford GO Station																																											
41.96	Road At-Grade	(private MOECC)																																											
42.26	Road At-Grade	Industrial Road																																											
43.37	Road At-Grade	9th Line (Scanlon Creek Rd)																																											
44.34	Road At-Grade	10th Line																																											
44.86	Road At-Grade	Farm Xing																																											
45.37	Road At-Grade	11th Line (Coulson’s Hill Rd)																																											
46.29	Road At-Grade	12th Line																																											
47.21	Road At-Grade	13th Line																																											

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>The request to remove the piles from the Holland River is noted. No in-water works are proposed at the Holland River Bridge in association with the GO Rail Network Electrification Project. As noted in the CHER for Holland River bridge (Appendix M of the Electrification EPR), the piles remain from work undertaken by CN, the previous owner, in 1973. Removal of the piles is not proposed as part of the Electrification project.</p>
4	Health & Safety	<p>With the planned electrification, please advise if there are is fencing proposed to protect the electrification infrastructure from damage or vandalism.</p>	<p>Public and operational safety is of the utmost importance. As such Metrolinx will be reviewing additional security and safety measures as part of an Operations Framework for RER service. With electrification, Metrolinx will be securing its rail corridors by installing security fencing to prevent illegal trespassing across the rail corridor. That said, due to the geographical scale of the GO Rail Network it is not envisioned that all adjacent properties will be fenced to restrict access.</p> <p>The height of the portals/cantilevers used to support the Overhead Contact System (OCS) wires over the electrified tracks will range between approximately 7.6m to 12m above the top of the highest rail. Contact wire height will range from 6m to 7.6m. As such, the height of the wires will not be reachable from ground level.</p> <p>In addition, as part of electrification, bridge protection barriers and horizontal barriers will be installed to protect pedestrians and travelers/infrastructure users within the public right-of-way on bridges and adjacent walkways from direct contact with adjacent live parts of the OCS for voltages up to 25 kV to ground. In addition, these barriers protect against damage to the OCS passing under bridges by providing an obstacle to debris that may be thrown onto the railway from overhead. The length of the protection barrier will extend a minimum of approximately 3m laterally beyond the live parts of the overhead contact system, on either side the bridge. The barriers will be made of solid-faced material, and will be a minimum height of approximately 2m (barriers of greater heights may be required in areas where vandalism is prevalent). High voltage signage will also be provided as an additional safety measure. Metallic elements of the protection barriers will be grounded and bonded to the static wire in minimum two locations.</p>
5	General GO Transit Planning	<p>It is not clear how much of the electrification project impacts the existing GO station. It is recognized that the station is part of another study being undertaken by Metrolinx. Given the various studies underway, it is difficult to tailor our comments to the specific study. In this regard, please see the attached email from Ryan Windle, Manager of the Office of Community Planning dated Feb 17, 2017 that outlines a number of issues related the station re-design and construction. At a minimum, Staff are requesting that Metrolinx acknowledge receipt of the Station comments in the EA and if appropriate make a statement regarding how these comments will be addressed.</p>	<p>Please refer to EPR Volume 1, Section 3.13 for a description of GO Station Modifications proposed as part of the GO Rail Network Electrification Project, including the integration of OCS support structures into platform areas and grounding and bonding. Potential impacts to the Bradford GO Station and proposed mitigation measures related to Cultural Heritage and Visual Impacts are discussed in EPR Volume 3, Sections 6.3.14 and 6.10.14. This Comments/Response will be documented for the TPAP, in Volume 4 of the Final EPR.</p> <p>Metrolinx acknowledges the comments and will continue to work with the Town of Bradford West Gwillimbury on this matter through the Barrie Corridor Expansion TPAP.</p>

Table 1-41: Town of East Gwillimbury Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF EAST GWILLIMBURY			
1	General Comment	<p>The Electrification and Service Expansion projects are complex with many discipline related documents to review. It is our opinion that when both projects complete their construction phase and become operational, they will have a combined, permanent impact on the Town. Given the current structure of information from both projects, it is impossible to understand what that impact may be.</p> <p>In order to provide valuable comments back to Metrolinx/GO Transit for each project and also better serve our Council and residents, we request Metrolinx/GO Transit to compile a simple matrix outlining, within Town limits, impacts (with all disciplines and/or issues examined) with baseline measures, resulting measures, the acceptable industry or policy tolerance (where applicable) and proposed mitigation strategy(s). The information currently exists within the study material and we wish it to be recompiled into a usable format for the municipality.</p> <p>We strongly feel that our Council and residents will ask for this information in a similar context once notices of study commencement are issued and public meetings are held and hope that Metrolinx/GO Transit understands and sees value in this request.</p>	<p>The GO Rail Network Electrification and Barrie Rail Corridor Expansion (BRCE) projects are being assessed as separate TPAPs , being separate undertakings with different schedules and varying levels of design. Notwithstanding this, the current GO Rail Network Electrification TPAP does account for other Metrolinx project works that are ongoing or planned such as planned track expansions which were incorporated into the process for establishing the Impact Zones. The OCS impact and Vegetation Clearance zones were subsequently utilized to conduct the environmental impact assessment studies undertaken for the Electrification TPAP. Similarly, the design of BRCE project will need to accommodate the electrified rail corridor.</p> <p>With respect to the organization of the Electrification Draft EPR and associated studies, for a project of this size and scope, they have been organized by rail corridor and further divided by corridor segments to assist review agencies with focusing their review on sections/impacts most relevant to their jurisdiction.</p> <p>The information has been presented in a clear and concise manner for review agencies and the public to review and understand the potential impacts, proposed mitigation measures and commitments for future work. Specifically in EPR Volume 5, there are several sub-headings pertaining to Municipal commitments.</p> <p>The first round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from February 16, 2016 – March 22nd, 2016 in conjunction with other Metrolinx initiatives. A second round of GO Rail Network Electrification Pre-Planning Phase public meetings occurred from November 7, 2016 – November 29, 2016 in conjunction with other ongoing Metrolinx Environmental Assessments, including the BRCE project.</p> <p>We will continue to engage and communicate with stakeholders beyond TPAP completion. Continued discussions and consultation with municipalities will be undertaken during detailed design and construction. Metrolinx will coordinate with Municipalities, as appropriate, to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid/minimize interferences to traffic to the extent possible.</p> <p>As part of the continuous public engagement, we will maintain the Electrification project website throughout the detailed design and construction phases where the public can access updated information on the project.</p>

Table 1-42: Town of Innisfil Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF INNISFIL			
1	Volume 1, Section 3.6.12.2 Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	<p>Metrolinx will set up a meeting with Town of Innisfil Staff to further discuss the location of the proposed Gilford Paralleling Station (PS).</p> <p>The Gilford PS was initially introduced to the Town of Innisfil during the November 13, 2015 meeting. The PS site was proposed to be located south of Shore Acres Drive east of the corridor (Option 2). It was noted by the Town at the meeting that the proposed location of the PS was in pre-consultation stages for a subdivision and was located within the Gilford Settlement Area. The Town suggested moving the PS south of Gilford Road. The preference for the Gilford PS to be moved from the Shore Acres Drive location was also made in the Town’s December 2, 2015 letter to Metrolinx.</p> <p>In response to the December 2, 2015 letter Metrolinx reevaluated the location of the Gilford PS and provided the Town with a map of an alternate location (Option 3 – at 2nd Line) within an email dated January 7, 2016. This email was prefaced by a phone call with Tim Cane from the Town of Innisfil. Option 3 was proposed to be located south of 2nd Line, west of the rail corridor. As noted in the Town’s response (email dated January 7, 2016) the proposed Option 3 location was preferred as it was the <i>least impacting for the future development and expansion of Gilford</i>. It was also noted that Option 3 was located in the Lake Simcoe Region Conservation Authority (LSRCA) regulated area and suggested Metrolinx contact LSRCA to discuss any impacts, Charles Burgess of LSRCA was cc’d on the email.</p> <p>The January 7, 2016 emails were followed up by a formal response letter from Metrolinx dated February 8, 2016. The criteria used by Metrolinx to evaluate the PS site locations was included within the February 8, 2016 letter and a map of the relocated PS site (i.e., Option 3 – at 2nd Line) was included as <i>Attachment 1</i>. It was also noted that as part of the ongoing consultation process Metrolinx would be in contact with LSRCA.</p> <p>LSRCA noted that Option 3 was within a floodplain, however it should be noted that locating a PS in a floodplain is viable as the facility would be designed to accommodate this and avoid any adverse environmental effects. In addition, Metrolinx attempted to engage the landowner of the Option 3 site but was unable to obtain the landowner’s consent to purchase the property. There were no other viable siting options that could be identified in the vicinity of Option 3 due to a Provincially Significant Wetland (PSW) in the vicinity.</p> <p>As a result, Metrolinx initiated further work to identify additional siting options for the Gilford PS. In consideration of the Town’s preferences to locate the PS south of Gilford Road and considering the additional technical/environmental/land use criteria as outlined in Section 3.4 of EPR Volume 1, the location of the preferred Gilford PS site was revised to south of Gilford Road, east of the rail corridor (Option 6). This site is presently owned by Metrolinx. In order to ensure the Town was engaged in the process of re-examining the preferred facility location, a phone call with Tim Cane at the Town of Innisfil occurred on August 24 2016 to advise of the revised Option 6 site and to request information on development applications in the vicinity. This was followed up by an email with a map of the revised site attached. The Town advised that there are no development applications for this site, since it’s outside of the Gilford settlement area and Gilford can’t expand there. It doesn’t have active zoning (similar to the corridor), and is surrounded by residential and agricultural land.</p> <p>Subsequently a map of the revised preferred PS location was provided to the Town as part of the Municipal Information Package sent via email on November 7, 2016. Comments were requested by November 30, 2016. No comments were received on the correspondence, as such Metrolinx proceeded with completing the required environmental impact assessment studies for this site and summarized the process and results in the Draft EPR.</p> <p>Locating the Gilford PS at 14th Line is not preferred in comparison to the recommended site southeast of the Barrie corridor and Gilford Road as it has the following disadvantages:</p> <ul style="list-style-type: none">• Significant existing vegetation requiring removals to install the facility;

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Longer access road would be required to reach the site and therefore more tree removal, grading work and materials cost;Land not owned by Metrolinx;Significant topographic grade differences on site leading to more cut and fill. <p>In addition for your reference, the following is a summary of the key mitigation measures identified in the Draft EPR as part of the environmental studies for the Gilford PS location:</p> <ul style="list-style-type: none">Land Use - The proposed Gilford PS is located on a property which is currently designated open. It is surrounded by the rail corridor and further open space to the west and south. Residential properties are located to the immediate east of the site. The site does not have active zoning, and is indicated as “Rail” within the Town of Innisfil’s Zoning By-law 080-13 (similar to the rail corridor itself). Permitted uses within this designation include only those uses directly associated with the rail line, so the presence of the PS is not expected to conflict with this designation. Since there is no planned development for this area, the PS is not anticipated to negatively affect future development within this zoning context, and therefore no adverse land use effects are expected. Further coordination with the Town of Innisfil will be undertaken during detailed design to finalize design details.Construction Management Plans as well as Traffic Management Plans will be developed and implemented by the contractor during construction and will take into consideration applicable legislation as appropriate.Noise - Regarding noise effects, daytime, evening and/or nighttime predicted noise impacts of the Gilford PS at the façade and outdoor area of the residences represented by receptors R101, R101, R102 and R103 (Appendix G4) were found to be above the exclusion limits as set out in the MOECC’s Environmental Noise Guideline, NPC-300. As such, evaluation of more accurate sound levels for transformers and, if necessary, mitigation measures such as low noise fans or barriers will be investigated for the Gilford PS location during detailed design.Visual - Views from the Gilford PS east of the railroad at 2nd Line are open and the site will be visible from the road approaching from both the east and west as well as from several residential properties within the vicinity. Therefore as part of detailed design, mitigation options for screening the facility such as the planting of an evergreen buffer between the facility and the road will be explored in order to minimize visual effects as much as possible. <p>Considering the examination of multiple possible locations for the Gilford PS location, consultations with the Town and commitments to the proposed mitigation measures outlined above and in the Draft EPR, Metrolinx proposes to maintain the current site for the Gilford PS (as shown on Figure 3-44, EPR Volume 1).</p>
2	Volume 2, Page lxxx, Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1
3	Volume 2, Page xci, Utilities	Under hydro transmission / local distribution, change “Town of Innisfil” to “InnPower”.	The revision will be made.
4	Volume 2, Page xci, Utilities	Under watermains, change “Town of Innisfil” to “InnServices Utilities Inc.”.	The revision will be made.
5	Volume 2, Page xci, Utilities	Under sanitary sewers, change “Town of Innisfil” to “InnServices Utilities Inc.”.	The revision will be made.
6	Volume 2, Page xci, Utilities	Confirm that the “Town of Innisfil” owns gas mains.	Town of Innisfil does not own any gas mains as per the information collected as part of the TPAP. Should the Town have contrary information, please provide to the Electrification project team for consideration.
7	Volume 2, Table 5-29	Correct the spelling of “Cortellucci”.	Spelling will be corrected.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
8	Volume 2, Section 5.5.5 Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1
9	Volume 2, Section 5.5.16.1/2 Existing Land Use/Planned Land Use	Please identify the LSAMI subdivisions as part of the residential, commercial and institutional lands.	This will be reflected in the Land Use Assessment Report (Volume E) and EPR Volume 2.
10	Volume 2, Section 5.5.16.2 Planned Land Use	Town staff notes that there are planned recreational trails adjacent to the rail corridor through this area of the study. Refer to the Town of Innisfil Trails Master Plan (November 2016) for details.	The Town of Innisfil Trails Master Plan (November 2016) will be reviewed and the land use sections of EPR Vol 2 will be updated as appropriate.
11	Volume 2, Section 5.5.17.2 Planned Land Use	Reference is made to Section 5.5.4.2 and the Innisgreen Estates Gilford, however Section 5.5.4.2 is not relevant to Innisfil.	This section will be reviewed and revised as required.
12	Volume 2, Section 5.5.17.2 Planned Land Use	Please note a single-family development is planned for the vacant parcel of farmland to the east of the rail corridor and south of Shore Acres Drive. The development is currently in a conceptual stage and has not been approved by the Town.	A note will be added to the Land Use Report to acknowledge this.
13	Volume 2, Section 5.5.17.2 Planned Land Use	Remove all references to “Gilford Secondary Plan” and change to “Village Settlement of Gilford”.	References will be revised as requested.
14	Volume 2, Section 5.5.17.2 Planned Land Use	Remove all references to “Lefroy Belle-Ewart Secondary Plan” and change to “Lefroy Secondary Plan”.	References will be revised as requested.
15	Volume 2, Section 5.5.17.2 Planned Land Use	Town staff notes that there are planned recreational trails adjacent to the rail corridor through this area of the study. Refer to the Town of Innisfil Trails Master Plan (November 2016) for details.	See response to comment #10.
16	Volume 2, Section 5.5.17.2 Planned Land Use	Town staff notes that a proposed GO Station will be located at the northwest corner of 6th Line and the rail corridor within 3 to 5 years and that the northeast corner of 6th Line and the rail corridor is proposed to be a higher density multi-storey residential/commercial development with little to no small town character.	This will be considered in the context of the planned land use sections of EPR Volume 2 and updates will be made to text and/or mapping as appropriate.
17	Volume 2, Section 5.5.17.2 Planned Land Use	Please identify the following draft plan approved subdivisions that are adjacent to the rail corridor: Sleeping Lion (northeast corner of 6th Line and rail), SanDiego Homes (southeast corner of 7th Line and rail), Alcona Downs (east of rail between 7th and 8th Lines), Innisfil Executive Estates (northwest corner of 10th Line and rail).	The planned land use sections of EPR Volume 2 will be considered and updates will be made to text and/or mapping as appropriate, including other technical studies in the EPR Appendices as appropriate. We request that the Town provide specific addresses and GIS shape files for these draft plan approved subdivisions so that they can be accurately mapped by June 30 th , 2017.
18	Volume 2, Section 5.8.16	Please identify the 6th Line bridge crossing and remove reference to 6th Line being an at-grade crossing.	Will update the report accordingly.
19	Volume 2, Section 5.8.17	Please identify the 6th Line bridge crossing.	See response to comment #18.
20	Volume 2, Section 5.8.17	Please change descriptions for 7th Line and Innisfil Beach Road. SanDiego Homes has an approved draft plan of subdivision located at the southeast corner of 7th Line and the rail corridor, and Innisfil Beach Road is the gateway to “downtown” Alcona.	EPR Volume 2 will be updated as appropriate, including other technical studies in the EPR Appendices. We request that the Town provide specific addresses and GIS shape files for these draft plan approved subdivisions so that they can be accurately mapped by June 30 th , 2017.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
21	Volume 2, Section 5.9.5 Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1.
22	Volume 3, Section 6.5.4 Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford respectively.	See response to comment #1.
23	Volume 4, Table 1-7, Page 36	Remove reference to the Town of Innisfil as a municipality that has implemented anti-whistling measures. The City of Barrie owns Mapleview Drive East, not the Town of Innisfil.	Correction will be made.
24	Volume 4, Table 1-7, Page 90	Confirm that the Gilford PS has been relocated to accommodate the Town’s request. According to the documents, the Gilford PS is still being proposed at the Gilford Road crossing.	The proposed location of the Gilford PS is as shown in EPR Volume 1, Figure 3-44. See response to comment #1.
25	Volume 5, Table 1-5 –	Revise table according to new proposed location of Gilford PS, which may or may not be located within a regulated area.	See response to comment #1.
26	Appendix C: Cultural Heritage Assessment Report	On page 13, item no. BR-11-1, correct the spelling of “Cortellucci”.	This will be corrected as noted in response to Comment #7.
27	Appendix E: Land Use and Socio-economic Impact Assessment Report, Section 3.4.3 –	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1.
28	Appendix E: Land Use and Socio-economic Impact Assessment Report, Section 3.4.15 –	Confirm that the existing bridge does not have a vertical clearance issue. The recent Municipal Class EA for the 6th Line identifies a new vertical profile that addresses deficiencies in the vertical curvature and vertical clearance.	<p>The minimum vertical clearance required for electrification is 5.959m as stated in Section 3.9.4 of Volume 1. The existing 6th line bridge does not have any vertical clearance issues (i.e., the existing clearance is 6.74m) based on the vertical clearance measurements/survey completed as part of the conceptual design work, as described in Section 3.4.15 of the Land Use and Socio-Economic Impact Assessment Report (Appendix E2), and in Table 3-6 of EPR Volume 1.</p> <p>We have reviewed the ESR dated Sept 2016 for the 6th Line Municipal Class EA and were not able to identify any information related to a proposed change to the vertical clearance of the 6th line bridge. If the Town’s proposed work on the bridge reduces the existing MVC, this needs to reviewed and discussed with Metrolinx.</p>
29	Appendix G4: Barrie Noise Vibration Impact Assessment	Please identify the proposed Innisfil GO Station on all applicable maps.	Figure 1-1 in EPR Volume 1 will be updated to include description/map of approved new stations. The scope of the Electrification TPAP has considered existing GO stations or stations had EA approval at the time of preparing the EA. Electrification does not prevent these stations from being constructed in the future. Separate EAs/TPAPs will be necessary and will be undertaken in the future for the new proposed GO stations.
30	Appendix G4: Barrie Noise Vibration Impact Assessment, Figure 4-16	Confirm if new mitigation barriers are to be shown on the Electric RER drawing. Currently, they are only shown on the Diesel RER drawing.	<p>The noise mitigation barriers that are recommended for implementation are barriers labelled <i>Noise Mitigation Location - Technically Feasible</i> as depicted on the mapping provided within Appendix S.</p> <p>It should be further noted that as part of finalizing the EPR, all non-technically feasible noise barriers shown in the EPR mapping (Appendices G and S) will be removed, as these particular noise barriers are not recommended for</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			implementation since they will not achieve a reduction in noise by at least 5 dB (as per guidance within the 1995 MOEE/GO Transit Noise Protocol).
31	Appendix G4: Barrie Noise Vibration Impact Assessment, Figure 4-17	Confirm the need for the retrofit mitigation barriers adjacent to the commercial lands located at the southeast corner of Innisfil Beach Road and the rail corridor.	Barrier 116 is required to protect the residences within the development represented by receptor R116. The extension of this barrier to Innisfil Beach Road is required to protect the residential development, not the adjacent commercial development.
32	Appendix G4: Barrie Noise Vibration Impact Assessment, Figure 4-18	Confirm if mitigation barriers are not required in either of the scenarios adjacent to the draft plan approved subdivision, which is partially built out, of Innisfil Executive Estates located at the northwest corner of 10th Line and the rail corridor.	This development was considered in the assessment and is represented in the report by existing residences on the north side of 10 th line, both east and west of the track (Receptor R125 and R126). These receptors did not see a 5 dB increase in sound levels and therefore no mitigation was investigated. These results are representative of the Innisfil Executive Estates, and therefore no mitigation would be expected for the development.
33	Appendix G4: Barrie Noise Vibration Impact Assessment, Traction Power Facility Sites – Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1.
34	Appendix G4: Barrie Noise Vibration Impact Assessment (General)	Please identify all draft plan approved subdivisions that the rail expansion noise could impact.	Where readily available, this information will be added to the Noise and Vibration Modelling Reports and updates to the results will be made as/if required. The Visual and Land Use assessments will also be updated as required.
35	Appendix H2: Visual Impact Assessment	Please include reference to any urban design guidelines that may be applicable, such as Lefroy Community Urban Design Guidelines (October 4, 2011) and Innisfil Beach Road Urban Design and Guidelines (May 2007). Also, consider previous Town comments on preserving natural viewsheds at all crossings.	Metrolinx or its Contractor will continue to consult and coordinate with municipalities as part of the detailed design phase to obtain feedback on the final design of the electrified system, including consideration of certain urban design guidelines as applicable. The Visual Impact Assessment Report will be updated to state this. Regarding viewsheds and potential visual effects and mitigation measures, please refer to Appendix H – Visual Impact Assessment Report.
36	Appendix O3: Barrie Gilford PS	The Town is not in favour of the selected location as it is located within the Village Settlement of Gilford. The Town would prefer to relocate to either 2nd Line and the rail or 14th Line and the rail, north or south of the Village Settlement of Gilford, respectively.	See response to comment #1.
37	Appendix S4: Barrie Noise Mitigation Map	Provide clarification with the plan and legend where proposed mitigation barriers will be located and what is meant by “non- technically feasible”.	See response to comment #30.

Table 1-43: Town of Newmarket Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF NEWMARKET			
1	General Comment	Town of Newmarket Planning staff have reviewed the draft documents (Electrification TPAP - Draft EPR, Volumes 1-5) and offer the following detailed comments. Please note that the majority of the comments relate to the potential noise and visual impacts from the proposed Switching Station (SWS) on Steven Court. The Town would benefit from further discussions with Metrolinx regarding these issues.	Operational noise limits are not exceeded at the Newmarket SWS site, and the Newmarket SWS is not listed as having high or moderate visual impact. Notwithstanding this, it is noted that Metrolinx’s preferred design of the Newmarket SWS facility is to include some form of visual screening. Responses to the Town have been provided below to address each comment.
2	General Comments	Volume 1 No comments.	Acknowledged.
3	Land Use	Volume 2 5.5.4.1 Existing Land Use <ul style="list-style-type: none">States that “There are no trails, large parks or other recreational amenities in the vicinity of the proposed Newmarket SWS site, and no sensitive receptor facilities in the vicinity of the site.” Please note that the SWS Site is located in close proximity to the Bailey Ecological Park, Nokiidaa / Tom Taylor Trail System, East Holland River, Audrie Sanderson Park. In addition, an existing residential subdivision is located less than 100m south of the SWS Site. 5.5.4.2 Planned Land Use <ul style="list-style-type: none">Please note that the SWS property is currently designated Business Park – General Employment. However, the SWS site will be included in a planning study for the area of the future Mulock GO Station. This will be a large-scale planning study that will re-assess the existing designations currently on site as well as the surrounding lands.	We have updated references in the Land Use and Socio-Economic Report (Appendix E) to include these items. A notation with regards to the Mulock GO Station Study has been included in the Land Use and Socio-Economic Report (Appendix E). The scope of the Electrification TPAP has considered existing GO stations or GO stations that had EA approval at the time of preparing the TPAP. Electrification does not preclude new stations from being constructed in the future. As required, EAs/TPAPs will be undertaken in the future for the new GO stations proposed along the Barrie Corridor in Newmarket as outlined in Section 3.13 of Volume 1. The future stations will need to be built to accommodate electrification.
4	Land Use	Volume 2 5.5.13.2 Planned Land Use <ul style="list-style-type: none">States that “The rail corridor passes through the Newmarket Urban Centres Secondary Plan. The general purpose of this plan is to promote the downtown as a node of activity characterized by a mixed use environment.” Please note that this Plan does not relate to Newmarket’s Downtown (that is located along Historic Main Street; a different area of the town). The Urban Centres Secondary Plan relates to the Town’s Yonge Street and Davis Drive Corridors.	This item has been updated within the text for the Land Use and Socio-Economic Report (Appendix E1) and EPR Volume 2.
5	Visual	Volume 2 5.8.13 Corridor & Bridges: Section BR-7 – Aurora Station to East Gwillimbury Station <ul style="list-style-type: none">States that “There are no road bridges over or under the rail corridor in this section. All roads crossing the tracks do so at grade crossings” Please note that Queen Street, in Newmarket, passes over the rail corridor via a bridge. This should be corrected in the quoted sentence as well as later on in the paragraph. This paragraph should also be revised to reference “Mulock Drive” rather than “Mullock Drive”	Noted. The section will be revised to acknowledge the Queen Street rail overpass in Newmarket, as well the correct spelling of Mulock Drive.
6	Cultural Heritage	Volume 3	No, the tables should not align. To clarify, Volume 2 summarizes the results of the Cultural Heritage Screening Report (CHSR) (Appendix C1) undertaken as part of the Baseline Conditions. Only potential/confirmed heritage properties that

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">6.3.12 and 6.3.12.1 – The identified cultural heritage resources in these sections do not align with those identified in 5.3.13 of Volume 2 (we assume they should align).	would be impacted by Electrification infrastructure were carried forward and subsequently assessed in the Cultural Heritage Impact Assessment Report (Appendix C2) and discussed in Volume 3.
7	Land Use	<p>Volume 3</p> <ul style="list-style-type: none">6.5.3.1 States “Permitted uses within EH areas include a variety of commercial, service, manufacturing, and storage uses, and permitted uses neither include nor preclude a public utility.” and “The SWS is located in an area with a potential land use and zoning conflict.” Please note that Section 4.1.3 of the Town’s Zoning By-law permits Public Uses by a public authority, subject to various conditions.	This item has been updated within the text for the Land Use and Socio-Economic Report (Appendix E2) and EPR Volume 3.
8	Land Use & Noise and Vibration	<p>Volume 3</p> <ul style="list-style-type: none">6.6.2.1 – States that “There are no sensitive facilities within 500 m of the proposed Newmarket SWS location and therefore there will be no footprint impacts to sensitive facilities”. As noted there is an existing residential subdivision is located less than 100m south of the SWS Site. The Town looks forward to further discussion regarding potential Noise and Vibration impacts of the SWS to local sensitive receptors, including the residential subdivision located to the south.	<p>For the purposes of the Land Use assessment study for the Electrification project, the term 'sensitive receptor' is defined in the Land Use and Socio-Economic Baseline Report Section 3.2 (Appendix E1) as: "child care centres, schools, long term care centres, and hospitals." The term 'sensitive receptor' is defined by various policies, including the Provincial Policy Statement (PPS). The PPS defines 'sensitive land uses' for the purposes of assessing land use planning and development projects under The Planning Act. Further, ‘contaminant discharges generated by a nearby major facility’ are not anticipated or included as part of the electrification project works.</p> <p>The Land Use assessment for the Electrification TPAP focused on the potential effects to sensitive land uses as defined above in order to avoid overlap with the sensitive receptors reviewed by other disciplines. The present definition helps streamline the assessment while still avoiding gaps in the assessment process. Additional information pertaining to sensitive receptors and the direct and indirect impacts to all land-uses as defined by the PPS can be found in the: Natural Environmental Assessment Report (Appendix A), Noise and Vibration Modelling Reports (Appendix G), and the Visual Assessment Report (Appendix H).</p> <p>Furthermore, the Noise and Vibration Assessment Reports contained in Appendix G as well as the Visual Assessment Report contained in Appendix H consider effects related to noise, vibration and visual on sensitive features such as residential areas in the vicinity of the rail corridors and traction power facilities in detail. Therefore, this same assessment of effects on nearby residential areas does not need to be duplicated in the Land Use Assessment Report. “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.”</p> <p>This particular residential subdivision was considered as part of the noise/vibration assessment; it is represented by R067 (refer to Figure 2-13 in the Barrie Corridor Noise/Vibration Report contained in Appendix G).</p> <p>Various mitigation measures have been proposed to minimize adverse visual effects, noise/vibration effects where required – these are detailed throughout EPR Volume 3 and summarized in Tables 11-7 and 11-8 of Volume 3.</p> <p>In addition, as described in Volume 1 Section 3.4 including Table 3-1, the process followed to identify potential TPF sites was based on avoiding residential areas to the greatest extent possible.</p>
9	Visual	<p>Volume 3</p> <ul style="list-style-type: none">6.10.3.1 - This paragraph also states that no visual mitigation is required. This is also the area of the future Mulock Station, which as required by Metrolinx, will be examined from a planning standpoint in order to create a supportive planning regime (i.e. a possible secondary plan). This planning regime will have to accommodate higher densities and transit-oriented development as required by the new Growth Plan that will likely change the character of the area. Not providing any visual mitigation seems to be counter to this initiative. The Town looks forward to more discussion on this matter. Also, this paragraph should be revised to reference “Mulock Drive” rather than “Mullock Drive”.	<p>The assessment of potential visual effects due to electrification as documented in the Draft EPR is based on existing/known conditions and subsequent categorization of areas of low/moderate/high visual effects as described in Section 2 of the Visual Impact Assessment Report (Appendix H). Volume 1 will be updated to reflect any stations that were approved after drafting the EPR.</p> <p>Notwithstanding this, it is noted that Metrolinx’s preferred design of the Newmarket SWS facility is to include some form of visual screening. .</p> <p>See response for Comments #1 and #3.</p> <p>The spelling of “Mulock” will be corrected throughout the EPR.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
10	Grammar/Spelling Inconsistencies, Formatting edits	Volume 4 <ul style="list-style-type: none">Table 1-6 – Meeting #9 - Typo in date (year)Town of Newmarket comment on page 58 “Is there any benefit in having TPFs located near GO stations?” - The question was more accurately: Will the presence of a power facility in the proposed location preclude the future Mulock Station?	Table 1-6 will be reviewed and updated, as required. The questions identified on page 58 are excerpts from the meeting minutes issued. No revisions to the minutes were previously requested. For consistency and documentation purposes, no change will be made. The presence of the proposed Newmarket SWS does not preclude the future Mulock station.
11	Natural Environment – Tree/Vegetation Removal Compensation	Volume 5 <ul style="list-style-type: none">Table 1-1 – Section on Newmarket should be updated to reflect that Newmarket is currently governed by three policies/by-laws regarding trees (one Regional and two Town):<ul style="list-style-type: none">(i) York Region’s Forest Conservation Bylaw 2013-68 (applicable to Woodlots over 1ha)(ii) Newmarket Bylaw 2007-71 - To prohibit or regulate the destruction of woodlot trees (applicable to Woodlots under 1ha)(iii) Tree Preservation, Protection, Replacement and Encroachment Policy (only applicable under Planning Act development applications)	Noted. Table 1-1 will be reviewed and updated, as required.
12	General Comment	Please consider including a brief explanation why a transportation assessment component and the noise component for at-grade rail/road intersections was not included in the draft Electrification EPR documentation.	With respect to the noise assessment, details of this study can be found in the Noise/Vibration Modelling Reports contained in Appendix G and are also summarized throughout Volume 3 in each respective corridor sub section.. Metrolinx will coordinate with Municipalities, as appropriate, to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid/minimize interferences to traffic to the extent possible.

Table 1-44: Town of Oakville Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF OAKVILLE			
1	Oakville SWS Siting, Visual Impacts, Land Use Fig 3-41	The Oakville switching station on Maplegrove Road is identified as occupying a small portion of the overall property. What is the intended future use for the residual property? Consideration for visual impacts of potential future use of the property not existing use. The entire site including access road needs to be clearly separate (fenced) from the current adjoining land use. The entire site limits needs to be illustrated (access road including ditches, bio swale, etc) The Oakville SWS has no provision for vehicles to turn around of any parking provisions	<p>It should be noted that the Traction Power Facility (TPF) site plans developed as part of the Transit Project Assessment Process (TPAP) are conceptual and that detailed site specific design will be carried out as part of the detailed design stage. As part of the detailed design process, Metrolinx or its Contractor will continue to engage with municipalities as required. With respect to plans for the residual part of the identified property, it should be noted that Metrolinx currently owns this property. For purposes of the Environmental Project Report (EPR), the full extent of each TPF property parcel is shown as well as the smaller area to be occupied by the footprint of the proposed facility. The future use of the residual part of this site is to be determined.</p> <p>The Contractor will be required to design the Switching Station (SWS) facility based on compliance with all applicable local and provincial building code and requirements. This includes drainage, parking, etc. Note that this SWS will be unmanned and parking requirements will be for maintenance purposes only.</p>
2	Bridges Fig 3-58	Bridge attachment agreements to be developed and negotiated for OCS bridge attachment on town of Oakville structures	Acknowledged. Further review and discussion regarding bridge attachment/maintenance agreements, will be undertaken with the Town.
3	Security, Public Access No reference - general	With the electrification of the corridor does Metrolinx intend to install security fencing along the corridor to prevent/mitigate trespassing. Specifically across public open spaces abutting the corridor (parks, road right of ways-dead ends)	Metrolinx will be securing its rail corridors to prevent trespassing. All fencing within 4 metres from track centre at the top of rail will be grounded, complying with all applicable local, national and international codes and standards. Where there are road-rail crossings, fencing will terminate on either side of the crossings. In addition, bridge protection barriers and other parallel barriers will be installed to protect pedestrians and travelers/infrastructure users within the public right-of-way on bridges and adjacent walkways from direct contact with adjacent live parts of the Overhead Contact System (OCS) for voltages up to 25 kV to ground.
4	Heritage Vol 1 , pg 91 and 92	That Metrolinx work closely with Oakville Heritage Planners with follow CHER as identified in the EPR	<p>Based on the results of the Cultural Heritage Evaluation Reports (CHERs) for Sixteen Mile Creek Bridge and Bronte Creek Bridge, it was determined that these structures meet the requirements of O. Reg. 9/06 and are thus considered to retain municipal/local heritage value or interest.</p> <p>Copies of the CHERs completed for these properties were included in Appendix M of the Draft EPR provided to the Town. Commitments for the completion of a Heritage Impact Assessments (HIA) have been detailed within in EPR Volume 3. The Town of Oakville staff will be provided the opportunity to review and comment on HIA(s) as they become available.</p>
5	Tree Compensation, Vegetation Clearing Vol 3, pg 121	That as committed in the EPR, Metrolinx in consultation with municipalities and conservation authorities to develop a compensation protocol to help re-establish tree canopy. Request that impacted areas outside of the Metrolinx ROW be quantified to determine loss of canopy cover.	<p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Please note that a conservative quantification of areas of removal within and outside the Metrolinx ROW was provided in EPR Volume 3 and Appendix A2 based on ELC analysis. Refer to Tables 4-16, 4-18, 4-20 in EPR Volume 3 for vegetation removal areas expressed in hectares. During detail design, more detailed Tree Inventories will be completed.
6	RER – Increased Service No reference - general	That necessary improvements to existing signal pre-emption at existing Oakville level crossing due to increased rail service be addressed as part of the commitments by Metrolinx put forward in the EPR	<p>At Metrolinx, safety is our top priority. We are committed to providing safe, reliable, efficient and convenient public transportation services to the region. GO Transit complies with all relevant safety acts, regulations, guidelines and industry best practices, including the Railway Safety Act (RSA), Transport Canada.</p> <p>Outside the current Network Electrification TPAP, Metrolinx is working on a level crossing improvement plan which is expected to be completed by late 2017. Metrolinx will be enhancing the crossings as required per the new guideline. As planning for RER progresses from the network level to specific projects, detailed consideration of potential improvements for every level crossing location will be required. Measures that may be recommended could include: improved road approaches, improved road markings, enhanced signage, pedestrian gates, cameras, vegetation removal and coordinated traffic signal timing.</p> <p>To inform this phase of work, Metrolinx will undertake a study that will assess the outcomes of service planning work related to RER and planned corridor infrastructure improvements to arrive at specific recommendations for each level crossing on the network. This work will include a risk assessment for each location. These recommendations will become the basis for further consultation with municipalities and community members to inform specific plans for each level crossing, which would be subject to agreement.</p> <p>More details on the RER Level Crossing Strategy is available at: http://www.metrolinx.com/en/docs/pdf/board_agenda/20170217/20170217_BoardMtg_RER_Level_Crossings_EN.pdf</p>
7	RER – Increased Service No reference - general	The increase in service delivery and electrification infrastructure with the RER will add significant future costs and operational constraints to delivering future grade separations. These additional costs should be the sole responsibility and outside of the outside of the Transport Canada cost apportionment guidelines.	<p>The assessment of grade separations is not included in the scope of the GO Rail Network Electrification TPAP and will be examined as part of separate/future TPAPs. The design of any future grade separation projects will need to accommodate the electrified rail corridor.</p> <p>As shared infrastructure, grade separations are partnership efforts and require municipal consultation and agreement. Discussions have been underway and will continue between Metrolinx several municipalities to identify potential priority locations and cost share agreements. Similarly, new proposed locations in the future will require partnership and agreements.</p>
8	RER – Increased Service No reference - general	With the level of service increase to stations, how is the impact to local transit and being dealt with?	<p>With increased services levels, needs will change and increase for local transit providers. In late 2016, the Metrolinx Board of Directors approved the GO Rail Station Access Plan which is the update to the 2013 Station Access Plan.</p> <p>The 2016 GO Rail Station Access Plan includes a system-wide access target of 25-27% for local transit in 2031 (including micro-transit and local delivery models). The Plan provides specific recommendations for local transit and other access modes for each GO station. This will significantly increase the approximately 8% mode share of today. Metrolinx understands that this will require collaboration between local municipalities and service providers and Metrolinx.</p> <p>As part of RER, Metrolinx is continuing to meet with our municipal partners to make progress, and these conversations will continue as we get closer to increasing service on the corridor. Metrolinx is also working to shift the proportion of GO passengers toward non drive-and-park modes. The 2016 GO Rail Station Access Plan includes a 2031 target across the network that shifts the drive-and-park mode share from 62% to less than 38%.</p> <p>The 2016 GO Rail Station Access Plan is available at: http://www.metrolinx.com/en/regionalplanning/projectevaluation/studies/GO_Rail_Station_Access_Plan_EN.pdf</p>
9	RER – Increased Service No reference - general	With the increase in level of service to stations how is the impact to associated road infrastructure and capacity being dealt with?	See response to Comment #8.

Table 1-45: Town of Whitby Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF WHITBY			
1	Project Timeline	Provide timing (approximate) of electrification implementation	Anticipated project timelines are summarized in Section 2.4 of Draft EPR Volume 1. Construction will be phased across the GO Rail Network between 2020-2025. The exact phasing plan for construction will be determined by the Contractor.
2	Project Consultation	Provide information pertaining to the next round of public consultation/meetings	Notifications advising of consultation events will be advertised in local newspapers and provided to all stakeholders on the Project Contact List, as well as residents adjacent to the rail corridor. Information regarding the next round of public meetings will also be made available on the project website: http://www.gotransit.com/electrification/en/default.aspx
3	GO Service Noise & Whistles	Provide clarification as to how Metrolinx addresses public concerns related to noise from increasing train service and whistling	<p>Metrolinx is governed by the federal whistling guidelines for safety and protection of train riders, residents, and operating staff. Special exemptions for anti-whistling can be issued, provided that certain conditions are met. This process must be initiated by the municipality to Transport Canada and not Metrolinx. Members of the public can submit a request to the municipality to suspend train whistling in a specific area. Even if whistling is not used at crossings, trains may use their bells as a warning devise at crossings instead.</p> <p>Metrolinx is working with Transport Canada to review existing road-rail crossings standards to see if new technologies can help to reduce the noise caused by the road-rail crossing systems.</p> <p>Train whistles are a requirement under the Railway Safety Act which is administered and regulated by Transport Canada. Metrolinx must adhere to all Transport Canada regulations. Special instructions may be issued to exempt the use of the whistle at specific crossings provided that certain conditions are met. This process is initiated by the local municipality by applying to Transport Canada to have train whistling removed at road-rail crossings in their municipality.</p> <p>As part of the GO Rail Network Electrification TPAP, various technical studies were completed in order to determine potential impacts and mitigation measures. These studies included detailed noise and vibration reports, which indicate areas which will experience an increase of 5dB or greater in noise levels; thus triggering the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. Please note that this modelling includes increased train traffic as well as train whistles and horns – if the speed is greater than 70 km/h, the whistle starts to blow 400 metres before the crossing and ends at the crossing; otherwise the whistle is blown for 20 seconds before arriving at the crossing. In these areas, mitigation measures such as noise barriers will be examined.</p> <p>At Metrolinx, safety is our number one priority, and bells and whistles play an important role in keeping people out of harm’s way. Metrolinx is required to follow specific safety rules set by the federal government, through Transport Canada, for sounding bells and whistles. Bells and whistles are used in different ways for different situations and the unnecessary use of them is not permitted.</p> <p>The following municipalities have implemented anti-whistling measures:</p> <ul style="list-style-type: none">• City of Toronto• City of Barrie (Minet’s Point Road, Little Avenue)• Town of Innisfil (Mapleview Drive East)• Town of Newmarket (Davis Drive, Water Street - between 2200 – 600 hours) <p>Several municipalities, including the Town of Innisfil, Town of Bradford West Gwillimbury, and the Town of Aurora are in the process of submitting train whistling exemption applications.</p> <p>You can find further information at: https://www.tc.gc.ca/eng/railsafety/menu.htm</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>At Metrolinx, we adhere to all federal and provincial requirements. Train whistling at road-rail crossings is a requirement as per Transport Canada.</p> <p>We must adhere to federal regulations to ensure safety. Metrolinx is following regulatory requirements that are considered best practice. There is an existing Transport Canada process in place for municipalities that wish to eliminate whistling at public crossings and a number of safety measures must be in place. Metrolinx is committed to working with municipalities and Transport Canada to ensure the right measures are in place to keep people and communities safe.</p>
4	Project Consultation	Metrolinx should provide an information hotline to address public queries on this project at all phases including implementation	<p>There is a community relations representative to contact for any issues that the public may experience now, and through design and construction. Carmen Rapati is this area’s representative and can be reached at Carmen.Rapati@metrolinx.com or 416-202-4719.</p> <p>Residents can also call our customer service line at 416-869-3200 (Toronto) or 1-888-438-6646 for information on construction.</p> <p>This information will be made available on the project website:</p> <p>http://www.gotransit.com/electrification/en/default.aspx</p>
5	Bridge Modifications	In TPAP Volume 1 Table 3-4, it appears that two structures (i.e. Henry Street and Lake Ridge Road over the railway tracks) are missing along the Lakeshore East Corridor	Table 3-8 provides a summary of bridge modifications proposed along the Lakeshore East Corridor. Henry Street Bridge and Lakeridge Road have both been identified in this table.
6	Bridge Modifications	If Henry Street structure is to be replaced or modified, the Town would like to provide additional pedestrian facilities including a multi-use path and a sidewalk	Henry Street Bridge is not proposed to be replaced as part of the modifications required for Electrification. As identified in Table 3-8, modifications to this structure will entail installation of a bridge protection barrier and flash plates.
7	Detailed Design Phase Consultation	Provide detailed design information for the Town to review during the detailed design stage. This will include but not limited to: (i) All proposed bridge modification work; and (ii) Storm Water Management Report for the East Rail Maintenance Facility Tap/TPS.	Comment noted. Further discussions with the Town regarding the final design will be undertaken as appropriate during detail design.

Table 1-46: Town of Whitchurch-Stouffville Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TOWN OF WHITCHURCH-STOUFFVILLE			
1	General Comment	Is there any study conducted to address the environmental effect and mitigation measure in the OPA 137 area, such environmental effects may include Air Quality, Vibration, Noise, Vegetation, Health, and Safety, etc. The OPA 137 (Stouffville Secondary Plan Amendments) proposed designation from Rural Area to Residential, institutional, and commercial activities. A copy of Schedule ‘F’ to OPA No. 137 is attached.	The Land Use and Socio-Economic Baseline Report (E1) acknowledges that Corridor segment SV-6 passes through this Secondary Plan. Additionally, please refer to the Natural Sciences Report (Appendix A), Air Quality Assessment Report (Appendix F), Noise and Vibration Modelling Reports (Appendix G), Visual Assessment Report (Appendix H) for assessment of effects related to Air Quality, Vibration, Noise, Vegetation.
2	Infrastructure Siting	As shown in the attached figure 1, is there any specific site selected for the “Proposed Paralleling Station” in Stouffville area?	<p>The Lincolnville Paralleling Station (PS) is proposed to be located in Whitchurch-Stouffville. Please see Figure 3-49 in Volume 1 of the draft EPR. The Lincolnville PS is to be located on a parcel of land at 13120 York Durham Line in Whitchurch-Stouffville. The parcel is primarily a vacant lot immediately north of the Lincolnville GO station behind the GO Transit Lincolnville Rail and Bus Facility, and includes parts of the rail and bus facility, driveway to the GO station parking lot, and the rail corridor. The parcel is surrounded by the Lincolnville GO Station / rail and bus facility and associated structures, rail corridor, and agricultural fields.</p> <p>Based on the conceptual site design, the proposed positioning of the PS facility is adjacent to the rail corridor, and is currently a vacant lot</p>
3	General Comment	What mitigation measure has been proposed to address issues of sensitive receptor facilities, as mentioned in the report: “There are 103 sensitive receptors facilities (schools, child care centres, and long-term care centres) in the vicinity (i.e., within approximately 500 m) of the Stouffville Corridor. Of these, three are less than 40m from the rail corridor.”	<p>Mitigation is not necessary for those sensitive receptors which are outside the OCS/Vegetation Clearing Impact Zone. As outlined in EPR Volume 1, Section 3.7.1, “Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.”</p> <p>Commitments to mitigation measures are found in Volume 5 of the EPR.</p>
4	Contaminated Sites	Is there any consideration to conduct Phase I and II ESA a short segment extending north from the Stouffville GO Station to Lincolnville, being approximately 3.7 km long?	Yes. Please refer to Sections 5.5 and 6 in Appendix B (Preliminary Environmental Site Assessment Gap Analysis); and to Section 1.8.1 in Volume 5 of the EPR. Additional Environmental Site Assessment studies including Phase II ESAs, will be carried out by Metrolinx as required along the corridors during detailed design of the project.

Table 1-47: Township of King Draft EPR Comments and Responses

Item No.	King TWP Item No	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
KING TOWNSHIP				
1	1	Volume 2	The King City/King Township OP does not seem to be referenced	The Land Use and Socio-Economic Report (Appendix E) has been updated to include this information.
2		Land Use Volume 2 Section 5.5.11.2 Planned Land Use	This section incorrectly notes that there are no Secondary Plans affecting the lands adjacent to the rail corridor in the Township of King. In fact, the King City Community Plan (OPA 540) is the Secondary Plan for the area bounded by Jane Street to the west, Dufferin Street to the east, 15th Sideroad to the north, and the Township municipal boundary to the south. Therefore, the King City Community Plan applies to the section of the rail corridor between the municipal boundary (south of the King City GO Station) and Dufferin Street. The King City Community Plan designates the lands surrounding the rail corridor for future residential development, as well as future commercial, employment, and other land uses throughout the village. In particular, the lands located immediately north and south of the section of the rail corridor just west of Dufferin Street are designated for future residential (north of rail corridor) and future residential and/or commercial (south of the rail corridor).	The Land Use and Socio-Economic Report (Appendix E) has been updated to include this information.
3		Land Use Volume 2 Section 5.5.11.2 Planned Land Use	This section also incorrectly notes that there are no planned or approved recreational amenities bordering this section of the rail corridor. In fact, the lands immediately south of King Road and immediately west of the rail corridor are designated by the King City Community Plan for park uses and the lands have been conveyed to the Township as an element of the development approval process for the adjacent residential subdivision (Valley King). It is my understanding that the Township intends to use these lands for passive park recreational uses. In addition, there is an active park on the south side of the rail corridor within the King North/Zancor subdivision just west of Dufferin Street. Also, there is a pedestrian recreational trail network throughout much of King City which is located within the natural environmental areas including sections which are in proximity to the rail corridor and including a pedestrian crossing underpass of the rail corridor west of Dufferin Street. There is another active park located at the north-west corner of Keele Street and King Road (Wellesley Park).	The Land Use and Socio-Economic Report (Appendix E) has been updated to include this information.
4		Land Use Volume 2 Section 5.5.11.2 Planned Land Use	This section should also reference Zoning By-law 74-53 which is the applicable zoning by-law.	The Land Use and Socio-Economic Report (Appendix E) has been updated to include this information.
5	2	Contact List - Utilities Volume 2	Township of King / King City utilities not mentioned	Township of King has been contacted by the Third Party Utilities group and has provided utility information within the Electrification study area. The potentially impacted utilities are documented in Volume 3, Section 6.11.10.
6	3	Noise Receptors Volume 2	Locations of noise receptors not indicated. Should make reference to the appropriate appendix.	Noise receptors are shown on the mapping provided in Appendix S of the Draft EPR. A reference to this Appendix will be added to Volume 2.
7	4	Bridges - Visual Volume 2	Regarding visual impacts report states that the bridge protection barrier may alter views. (P410/296)“ The protective barriers required on the bridges may alter the aesthetics of this	Visual effects due to modifications to bridges will be minimized based on the implementation of mitigation measures including design considerations for bridge barriers where possible. As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/options for

Item No.	King TWP Item No	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			area.” This will require considerable consultation with both the Township of King and the Region of York	enhancing the aesthetics of bridge barriers where feasible/required. Options for design treatments/options for enhancing the aesthetics of bridge barriers, where possible, will be discussed in consultation with relevant municipalities during detailed design.
8	5	Utilities Volume 2	Township of King Utilities not mentioned (P426/312)	The Township of King was contacted by the Electrification team on Sep. 27, 2016. The potentially impacted utilities based on the information provided are identified in Volume 3, Section 6.11.10. Volume 2 will be updated to include this information.
9	6	Cultural Heritage Volume 3	Carry out a Cultural Heritage Evaluation Recommendation Report (CHER) to identify heritage value and attributes needed through King City heritage core area. Page 85/(xxxii)	<p>Cultural Heritage Screening and Impact Assessment reports have been completed and recommended Cultural Heritage Evaluations have been carried out within the Study Area including King City. As per the methodology section of this report, the screening report was scoped to address:</p> <ul style="list-style-type: none">a. areas within which potential effects will be assessed: e.g., potentially affected bridges/structures along the rail corridor ROW; electrification facility sites, and modified maintenance facility sties.b. a summary of known PHP and PHPPS located within Metrolinx owned rail corridors for purposes of compiling an inventory of baseline conditions. <p>Protected heritage properties adjacent to the study area were also identified. “Listed” heritage properties were not considered protected heritage properties (see Provincial Policy Statement 2014).</p> <p>The Cultural Heritage Screening Report, Cultural Heritage Impact Assessment Report and Cultural and Cultural Heritage Evaluation Reports are provided in Appendices C1, C2 and M.</p>
10	7	Land Use – Trails Volume 3	King Township trails follow and cross the tracks in different locations. Not mentioned. P92/(xxxix). More information can be provided from our Parks and/or Planning Department.	It is noted in the King Trails master plan that a proposed trail connection under the 'GO Transit Railway' at 161 Dennison is planned. As the connection occurs under the railway, no impacts to this feature as a result of Electrification are anticipated. Other reports including the Visual Assessment Report (Appendix H) discuss indirect impacts to associated or adjacent trails. A notation regarding this trail system has been added to the report.
11	8	Bridges – Visual Volume 3	King and Keele Street Bridge (D-27) considered having interesting or scenic views. P105/ (cii). Important that this consideration is included in the detailed design.	As part of detailed design, Metrolinx’s Design Excellence Committee will be engaged to review possible design treatments/options for enhancing the aesthetics of bridge barriers where feasible/required. Options for design treatments/options for enhancing the aesthetics of bridge barriers, will be discussed in consultation with relevant municipalities during detailed design.
12	9	Cultural Heritage Volume 3	Crawford Wells house is the only Cultural Heritage Resource identified in King City. Further work should be done. P638/ (528-529)	<p>The Crawford Wells House is the only protected heritage property adjacent to the study area. “Listed” heritage properties were not considered protected heritage properties (see Provincial Policy Statement 2014) and so were not identified.</p> <p>Please see response to King Township Comment #6.</p>
13	10	Cultural Heritage Volume 3	<p>The following properties are included on the Township’s Heritage Register within 500m of the GO line, approximately from Keele St and King-Vaughan Townline, and following the tracks to Bathurst St and 15th Sideroad:</p> <p>Designated under Part IV, Section 29 of the Ontario Heritage Act:</p> <p>12974 Keele Street – Crawford and Maud Wells House</p> <p>2169 King Road</p>	<p>Please see response to King Township Comment #6.</p> <p><u>Further clarification is provided as follows:</u></p> <p><u>Designated</u></p> <p>12974 Keele Street – Crawford and Maud Wells House (identified)</p>

Item No.	King TWP Item No	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			2175 King Road Listed under Part IV, Section 27 of The Ontario Heritage Act: 35 Station Road 12853 Keele Street 12911 Keele Street 12935 Keele Street 12936 Keele Street 12959 Keele Street 12966 Keele Street 12981 Keele Street 12991 Keele Street 12998 Keele Street 13109 Keele Street 13190 Keele Street 2145 King Road 2151 King Road 2157 King Road 2183 King Road 2194 King Road 2195 King Road 2207 King Road 2220 King Road 2221 King Road 13415 Dufferin Street 13140 Bathurst Street	2169 King Road (not adjacent to rail corridor) 2175 King Road (not adjacent to rail corridor) <u>Listed</u> 35 Station Road (not adjacent to rail corridor) 12853 Keele Street (not adjacent to rail corridor) 12911 Keele Street (not adjacent to rail corridor) 12935 Keele Street (not adjacent to rail corridor) 12936 Keele Street (adjacent to corridor but not a protected heritage property) 12959 Keele Street (not adjacent to rail corridor) 12966 Keele Street (adjacent to rail corridor but not a protected heritage property) 12981 Keele Street (not adjacent to rail corridor) 12991 Keele Street (not adjacent to rail corridor) 12998 Keele Street (adjacent to rail corridor but not a protected heritage property) 13109 Keele Street (not adjacent to rail corridor) 13190 Keele Street (not adjacent to rail corridor) 2145 King Road (not adjacent to rail corridor) 2151 King Road (not adjacent to rail corridor) 2157 King Road (not adjacent to rail corridor) 2183 King Road (not adjacent to rail corridor) 2194 King Road (not adjacent to rail corridor) 2195 King Road (not adjacent to rail corridor) 2207 King Road (not adjacent to rail corridor) 2220 King Road (not adjacent to rail corridor) 2221 King Road (not adjacent to rail corridor) 13415 Dufferin Street (adjacent to rail corridor but not a protected heritage property) 13140 Bathurst Street (adjacent to rail corridor but not a protected heritage property)
14	10	Land Use – Trails Volume 3	Section 666.1 P560/(670) No mention of the adjacent trail system in King City or crossing.	See response to King Township Comment #7
15	11	Vibration Volume 3	Section 6.9 P582/(692) Vibration evaluation based on individual train not on frequency of train traffic? This does not seem appropriate.	The Noise and Vibration Impact Assessment as part of the GO Rail Network Electrification TPAP assessed current and future noise and vibration levels, assessing how noise and vibration levels will change as a result of the conversion of GO Transit’s current service levels to the future increased service levels of the electric powered Regional Express Rail (RER) service. Vibration is assessed based on the Metrolinx / Ministry of the Environment and Climate Change joint protocol from 1995. The protocol dictates the assessment methodology for operational vibration, which is conducted based on a single pass-by event. This is typical of other rail guidelines. The evaluation of vibration is based on perceptibility, and each train is perceived individually. Therefore, vibration is evaluated based on a single pass-by event.

Item No.	King TWP Item No	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
16	12	Visual Volume 3	Section 6.10.10 P600/(709) Visual impact at King Keele bridge and GO Station.	See response to King Township Comment #8
17	13	Utilities Volume 3	Section 6.11.10.1 P646/(756) King Township utilities missing from table: Watermain, Sanitary Sewer.	See response to King Comment item #5
18	14	Cultural Heritage Volume 3	Page 1205/(1315) King City Heritage resource table to be updated.	See response to comment #10 above.
19	15	Noise Volume 5	Section 1.3.2.1.2 All construction activity must also adhere to the Township of King Noise By-law 81-142	Although provincial agencies such as Metrolinx are not subject to municipal by-laws, Metrolinx (and it's Contractor) will endeavour to adhere to these local by-laws as a best practice, where practical. As part of the electrification construction activities, nighttime work may be required however Metrolinx will be limiting nighttime noisy activities wherever practical.
20	16	Tree By-Laws Volume 5	Table 1.1 Municipal Tree By-laws. The Township of King falls under the Region of York Tree By-law and works with the Region in this regard.	Noted. Reference to Region of York Tree By-law to be added to the EPR Volumes and Natural Environment Appendix A for The Township of King.
21	17	Conservation Authorities, General Report Volume 5	Section 1.3.3.3 only mentions the TRCA specifically and not the other Authorities. Is this correct? Also there is a sub section number with no information under it.	Updates will be made to this section to acknowledge all Conservation Authorities within the study area. The sub-section heading will be corrected.
22	18	Heritage Assessment Volume 5	Section 1.5.3. More Heritage Assessment is needed in King City. The Metrolinx route goes through the heritage core of King City.	Please see response to King Township Comment #6.

1.2.7.5 Conservation Authority Review Agency Comments Received on Draft EPR

Tables **Table 1-48** to **Table 1-52** below contain each comment (verbatim) submitted by each Conservation Authority as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate).

Table 1-48: Central Lake Ontario Conservation Authority Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY			
1	Stormwater Management	We note the following for consideration when preparing the detailed stormwater management design: Granular surfaces tend to become impervious when subjected to heavy traffic, and should be assessed with a runoff coefficient of 0.9 to be conservative.	Comment noted. As noted in the Stormwater Management sections of Draft Environmental Project Report (EPR) Volume 3 and throughout the Preliminary Stormwater Management Report (Appendix K), the initial assessment of drainage, hydrologic analysis and Stormwater management provisions undertaken at the Transit Project Assessment Process (TPAP) stage for Traction Power Facility (TPF) sites is considered preliminary. As also noted and committed to in the Draft EPR, further more detailed Stormwater Management plans and designs will be developed at the detailed design stage.
2	Stormwater Management	We note the following for consideration when preparing the detailed stormwater management design: The Town of Whitby Intensity Duration and Frequency (IDF) values may be more conservative, and should be used instead of the Ontario Ministry of Transportation IDF values.	Comment noted. As noted in the Stormwater Management sections of Draft EPR Volume 3 and throughout the Preliminary Stormwater Management Report (Appendix K), the initial assessment of drainage, hydrologic analysis and Stormwater management provisions undertaken at the TPAP stage for TPF sites is considered preliminary. As also noted and committed to in the Draft EPR, further more detailed Stormwater Management plans and designs will be developed at the detailed design stage.
3	Natural Environment	We are generally satisfied with the information presented to date and the direction that will follow in future details, with specific tree inventories being reported in the next phase of the project.	Acknowledged.
4	Natural Environment	The project area will traverse the Lynde Shores Conservation Area and Provincially Significant Wetland and Area of Natural and Scientific Interest (ANSI). This will be one of CLOCA’s focus areas for review along with the remaining creek crossings and their associated corridors that have been mapped as part of the overall Natural Heritage System in our jurisdiction. As such, we look forward to the outcome of the proposed compensation guidelines for this project.	Acknowledged. Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol. For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor. For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan. Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed. Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed. Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.
5	Natural Environment	The reporting speaks generally to the avoidance of tree removals during migratory breeding bird season, where possible. We reiterate this as a concern and encourages ALL removals to occur outside of the identified breeding bird window, with particular emphasis on those lands within existing Natural Heritage Systems. We look forward to reviewing the detailed information specific to tree removals and compensation as it becomes available.	See response to comment #4. As noted in the EPR and the Natural Environment Impact Assessment Report (Appendix A2) vegetation removals will occur outside of the migratory bird window wherever possible. However, there may be circumstances where this is not possible and in such cases nesting surveys will be completed prior to any removals per standard protocols. If active nests are found, they will not be removed. We recognize that the window is not a definitive date and bird nesting may occur before or after the dates identified. However, the window of April 1 to August 31 is the standard that is used to define when breeding bird season occurs and as such will be used to define when vegetation removals cannot occur without appropriate screening for nesting activity.
6	Natural Environment	Based on the information presented for LSE-7 Ajax GO Station to Whitby GO Station and LSE-8 Whitby GO Station to Oshawa GO Station There are no net adverse effects on Kinsale Creek and Lynde Creek, Tributary of Lynde Creek, Pringle Creek, Tributary of Pringle Creek, Tributary of Corbett Creek and Corbett Creek as there are no anticipated footprint impacts. We are satisfied with the reporting at this stage of the project with respect to fish and fish habitat.	Comment noted.
7	General Comment	Thank you for your circulation to CLOCA of the draft materials for our comment. We look forward to continued participation and engagement in the Transit Project Assessment Process pursuant to Ontario Regulation 231/08.	Comment noted.

Table 1-49: Credit Valley Conservation Authority Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CREDIT VALLEY CONSERVATION			
1	General Scope	Only a small portion of the project is within the jurisdiction of CVC, basically the Lakeshore West Line from Dixie to just west of Winston Churchill Boulevard. In addition based upon our review there are no Traction Power Facilities, Switching Stations, Paralleling Stations or TAPs within our jurisdiction. As a result, it appears that only work within our jurisdiction will be the construction of Overhead Contact System which will include the installation of poles on the Metrolinx ROW.	Acknowledged. We can confirm that there are no Traction Power Facilities, Switching Stations, Paralleling Stations or Tap locations planned within CVC jurisdiction. The only infrastructure work currently planned in the area is the installation of the Overhead Contact System.
2	Infrastructure siting	The Lakeshore West Line traverses a number of watercourses and associated floodplain and erosion hazards within our jurisdiction. Wherever feasible the poles should be located outside the Regional Storm Floodplain and erosion hazard, where this is not feasible, the poles should be located such that they are located in the area of least hazard and should be designed to withstand any forces associated the Regional Storm. It is our understanding, that there will be no filling or grading associated with the installation of the poles. Please confirm.	<p>The addition of the electrification infrastructure along existing rail corridors is not expected to adversely affect flooding or flood risk. A note will be added to EPR Volume 3 to make this clearer.</p> <p>Filling or grading is not required for OCS installation, however minor grading may be required to level the site or facilitate access. In addition it should be noted that the vast majority of OCS infrastructure will be installed within Metrolinx owned ROW and there are currently no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.</p>
3	Vegetation removal requirement	Associated with the construction of the Pole System there is a requirement to have a vegetation clearance zone of 7 m. CVC understands the need for the vegetation clearance zone. However, in order to mitigate some the impacts to the woodlands, is it feasible to plant shrubs or other species between the pole and the edge of the vegetation clearance zone?	Planting within the 7m vegetation clearance zone is not possible/feasible since all vegetation is required to be removed from within this defined zone.
4	Natural Environment – Significant Wildlife Habitat	Although the reports identifies that Significant Wildlife Habitat Guidelines were used. It is unclear from review of the documents if there was any actual assessment done and if so was the assessment that none of the natural areas actually were Significant Wildlife Habitat or potential Significant Wildlife Habitat. Recognizing the close proximity of the study to Lake Ontario and the crossing of several PSWs and ANSIs, this is a surprising result.	<p>Within the Natural Environment Baseline Conditions Report (Appendix A1), areas of potential SWH were identified via desktop analysis based on the Guidelines and information provided by the Ministry of Natural Resources and Forestry (MNRF).</p> <p>Details of field studies undertaken are provided in Section 2.2 of the Natural Environment Impact Assessment Report (Appendix A2):</p> <p><i>OCS Impact and Vegetation Removal Zone</i></p> <p>Investigations were conducted at select areas along the corridors to evaluate the direct and indirect effects to natural features within the OCS footprint impact and vegetation removal zone. Assessments were conducted within designated areas, including Environmentally Significant Areas (ESA), Areas of Natural Significance (ANSI), Provincially Significant Wetlands (PSW), as well as large, non-designated woodlands and forests that provide valuable habitat for significant and non-significant wildlife and/or connected to designated areas. Field investigations were conducted in May, June and July of 2016 to supplement field investigations undertaken in 2015 as part of the Natural Environment Baseline Conditions Report.</p> <p><i>Traction Power Facilities</i></p> <p>Detailed vegetation surveys were undertaken at the TPF locations in order to delineate and classify surrounding vegetation communities, identify areas of suitable and/or significant wildlife habitat, and identify the presence/absence of Species at Risk flora (i.e. Butternut). Investigations were undertaken from May to December of 2016.</p> <p><i>Bridges</i></p> <p>Existing structures within the rail corridor identified to provide suitable habitat for sensitive avian species (i.e. Barn Swallow) where bridge modifications are proposed were assessed for the presence/absence of Barn Swallow nests based on visual observations. Structures spanning permanent watercourses with surrounding suitable Barn Swallow habitat were also investigated. Surveys were completed in May and June of 2016.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Additionally, targeted amphibian call surveys, Eastern Meadowlark and Bobolink Surveys, and bat surveys were completed.</p> <p>No footprint impacts to watercourses will occur therefore no aquatic field investigations were undertaken. Watercourses with SAR habitat will not be directly impacted by footprint impacts; however, further consultation with the MNRF during Detail Design will be required for any work that occurs within the Regulated Area for Redside Dace, especially as it relates to sediment and erosion control measures associated with construction or disturbance activities.</p> <p>Areas of confirmed SWH (i.e. deer wintering areas identified by the MNRF) were included/documentated in the report and discussed in Sections 3.4.13.1.1, 3.4.14.1.1, 3.4.15.1.1 of the Natural Environment Impact Assessment Report (Appendix A).</p> <p>In addition, potential effects on wildlife habitat and associated mitigation measures (as required) have been addressed throughout EPR Volume 3 and in the Natural Environment Baseline Conditions Report (Appendix A2).</p>
5	Natural Environment	It should be noted that Cooksville, Serson and Applewood Creeks although are within the jurisdiction of CVC that are not tributaries of the Credit River but flow directly to Lake Ontario.	EPR Volume 2 and Appendix A1 will be updated to reflect that Cooksville, Serson, and Applewood Creeks flow directly into Lake Ontario.
6	Natural Environment – Species at Risk	Although Brook Trout are found within the Credit River, in the area of this project the species present are warmwater with migratory salmonids. Our records of Species of Risk appears to include species not identified in the report. We would recommend contacting MNRF for updated records.	The MNRF provided updated Species at Risk data for the corridors on March 28, 2017 (Midhurst) and March 24, 2017 (Aurora), including aquatic species. The report will be updated with this new SAR information.
7	Natural Environment - Aquatic	Although Sheridan Creek and Avonhead Creek are within the jurisdiction of CVC. They are not tributaries of the Credit River and do not provide habitat for Brook Trout.	EPR Volume 2 and Appendix A1 will be updated to reflect that Sheridan and Avonhead Creeks are not tributaries of the Credit River and do not provide habitat for Brook Trout.

Table 1-50: Halton Region Conservation Authority Draft EPR Comments and Responses

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
HALTON REGION CONSERVATION AUTHORITY				
1	Key Comment 1.	Bridge Modifications/Track Lowering – Flood Protection	The preferred preliminary design involves track lowering between Ford Drive and Joshua Creek. Staff note that details regarding the extent of lowering have not been provided in the Environmental Project Report. Notwithstanding, modifications to the tracks and crossing structures in this area may increase flood risk to the railway corridor and upstream existing development within the regulatory floodplain. Staff request that as the design advances, consideration of flood risk should be evaluated and considered prior to selecting the preferred track alignment.	<p>As stated in the Draft Environmental Project Report (EPR), tracking lowering (in combination with other bridge modifications) may be required in some locations in order to achieve the required vertical clearances for overhead structures. The extent of track lowering around the Royal Windsor Drive bridge area is expected to be minimal (i.e., approximately 76mm maximum). To clarify, the notes provided in Table 3-3 of Volume 1 for Joshua Creek bridge are to identify that there may be indirect impacts to the Joshua Creek bridge as a result of track lowering at the Royal Windsor Drive, however this will need to be confirmed during detailed design. No adverse impacts to watercourses are anticipated in relation to track lowering based on the conceptual design developed as part of the TPAP, however if additional impacts are identified through detailed design, the Contractor will be required to follow applicable legislation and obtain all applicable environmental permits and approvals prior to construction.</p> <p>With respect to drainage and stormwater management, quantity and drainage patterns are not anticipated to be affected based on the preliminary analysis undertaking as part of the conceptual design work.</p> <p>Section 3.9.4 in EPR Volume 1 will be updated accordingly with additional information on track lowering.</p>
2	Key Comment 2.	Flood Protection	Please note that there are multiple crossings of regulated watercourses within Conservation Halton’s jurisdiction where the rail corridor is subject to flooding under the Regulatory storm, and under statistically more frequent storm events. The Environmental Project Report does not provide clarification with regards to any assumptions made with respect to flood susceptibility of the rail line. Staff request further clarification on whether track susceptibility to flooding, under the Regulatory Storm or alternate specific flood return frequency impact the electrification design or constrain the project in any way and if so, please clarify how this will be addressed and what role Conservation Halton may have in that evaluation.	<p>With respect to assumptions made with respect to flood susceptibility of the rail line, track susceptibility to flooding, under the Regulatory Storm or alternate specific flood return frequency does not impact the electrification design or constrain the project in any way.</p> <p>This text will be added to EPR Volume 3.</p>
3	Key Comment 3.	Track Modifications - Impact to Natural Environment	The Environmental project report notes that modifications to the existing tracks will be required where overhead clearance is insufficient. Where these areas coincide with watercourses, the project has the potential to significantly impact the natural environment, thus details on additional characterization (field work), impact analysis and proposed mitigation are required.	No vertical clearance issues have been identified for bridges over watercourses. The vertical clearance issues identified in the EPR are related to specific bridges as documented, over the rail corridors to be electrified. No adverse environmental effects to watercourses are anticipated in relation to the electrification project. Mitigation measures have been proposed for the construction phase for work on bridges over watercourses and have been summarized in Section 11, Volume 3 of the Draft EPR. In addition, please refer to the <i>Natural Environment</i> sections contained in Draft EPR Volume 3 as well as the Natural Environmental Impact Assessment Report contained in Appendix A2 for further more detailed information.
4	Key Comment 4.	Natural Environment Impacts - Watercourses	Staff have concerns as to the potential effects on watercourses within CH jurisdiction that support communities of various species listed on the Ontario Ministry of Natural Resources and Forestry (OMNRF)’s Endangered Species Act (ESA). Impacts to silver shiner, American eel and redbide dace have not been sufficiently discussed. Staff recommend consultation with the (OMNRF) regarding the ESA screening process.	There are no in-water works proposed as part of the electrification project and therefore no adverse environmental impacts are anticipated in relation to watercourses or fish habitat. Potential effects to Redside Dace (RSD) regulated habitat have been discussed in report sections where RSD were identified by the Ministry of Natural Resources & Forestry (MNRF). Further discussion of other aquatic species including Silver Shiner and American Eel will be added to the Natural Environment sections of EPR Volume 3 and the Natural Environment

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				Impact Assessment Report (Appendix A2) as appropriate based on additional or updated information provided by the MNRF.
5	Key Comment 5.	Natural Environment Impacts - Watercourses	Debris protection for the watercourses is not shown on drawings or described in the reports. I assume that this, and other sediment and erosion control measures, will be described in detailed design but I mention it here to ensure they are aware of our expectations.	General mitigation measures for sediment and erosion control have been identified in Section 3.8 of the Natural Environment Impact Assessment Report (Appendix A2) and in Section 11 of Draft EPR Volume 3. Further detail regarding debris protection will be added as appropriate. Detailed mitigation plans and drawings will be developed during the Detail Design phase.
6		General Comment	Conservation Halton staff do appreciate being involved in the review the Environmental project report and look forward to working with Metrolinx and their consultants. Conservation Halton staff are open to a working group meeting to discuss any of the outstanding comments and to progress the study. To facilitate Conservation Halton’s continued review of this study and streamline further discussions, we request that the applicant and their consultants provide their response in the form of a response matrix or a cover letter outlining how each comment has been addressed. In order to expedite our review, staff also request 3 hard copies and one digital copy of the study report be submitted to CH for review.	Thank you for your comments on the Draft EPR. Responses to each of HRCA’s comments have been developed and provided back to HRCA in the form of this table/matrix for your use/information. The next phase of review will entail the regulated 30 day public review timeframe for stakeholders to review the Final EPR and provide any outstanding comments which will occur following issuance of the Notice of Completion. The Final EPR will be posted to the project website and provided electronically to stakeholders for review.
7	Appendix 1.	Bridge Modifications/Track Lowering – Flood Protection	The preferred preliminary design involves track lowering between Ford Drive and Joshua’s Creek. The extent of lowering has not been specified as part of the current Environmental Project Report. Notwithstanding, modifications to the tracks and crossing structures in this area may increase flood risk to the railway corridor and upstream existing development within the regulatory floodplain. As the design advances, consideration of flood risk should be evaluated and considered prior to selecting the preferred track alignment.	See response to comment #1.
8	Appendix 2.	Track Modifications - Impact to Natural Environment	The EA notes that modifications to the existing tracks will be required where overhead clearance is insufficient. Where these areas coincide with watercourses, the project has the potential to significantly impact the natural environment, thus details on additional characterization (field work), impact analysis and proposed mitigation are required.	See response to comment #3.
9	Appendix 3.	Natural Environment Impacts - Watercourses	Impacts to silver shiner, American eel and redbside dace have not been sufficiently discussed.	See response to comment #4.
10	Appendix 4.	Natural Environment Impacts - Watercourses	Debris protection for the watercourses is not shown on drawings or described in the reports. I assume that this, and other sediment and erosion control measures, will be described in detailed design but I mention it here to ensure they are aware of our expectations.	See response to comment #5.
11	Appendix 5a.	Flood Protection	Volume 1: Section 3.3 Key Electrification Design Assumptions, page 29: The Environmental Project Report failed to clarify any assumptions made with respect to flood susceptibility of the rail line, and flood susceptibility did not appear to be discussed outside of the section on Climate Change. Please note that there are multiple crossings of regulated watercourses within Conservation Halton’s jurisdiction where the rail corridor is subject to flooding under the Regulatory storm, and under statistically more frequent storm events. Would track susceptibility to flooding, under the Regulatory Storm or alternate specific flood return frequency impact the electrification design or constrain the project in any way? If so, please	See responses to comments #1 and #2.

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			clarify how this will be addressed as the project advances, and what role Conservation Halton may have in that evaluation.	
12	Appendix 5b.	Infrastructure Siting - Flood Protection	Volume 1: Section 3.3 Key Electrification Design Assumptions, page 29: The Environmental Project Report failed to clarify any assumptions made with respect to flood susceptibility of the rail line, and flood susceptibility did not appear to be discussed outside of the section on Climate Change. Please note that there are multiple crossings of regulated watercourses within Conservation Halton’s jurisdiction where the rail corridor is subject to flooding under the Regulatory storm, and under statistically more frequent storm events. Would track susceptibility to flooding, under the Regulatory Storm or alternate specific flood return frequency impact the electrification design or constrain the project in any way? If so, please clarify how this will be addressed as the project advances, and what role Conservation Halton may have in that evaluation.	Acknowledged. As outlined in Section 4.13.4 of EPR Volume 3 and in the Preliminary Stormwater Management Report contained in Appendix K, a preliminary assessment of drainage, preliminary hydrologic analysis and stormwater management provisions was completed based on the conceptual designs for the traction power facilities as part of the TPAP. Section 4.13.4 of EPR Volume 3 summarizes the results of this assessment for the Oakville SWS specifically. As outlined in this section, further more detailed Stormwater management plans will be completed during detailed design. It should be noted that Metrolinx contacted HRCA as part of developing the draft SWM report and HRCA advised at that time that the proposed Oakville SWS site is part of Joshua’s Creek watershed and is located within the conservation area of HRCA but is outside the regulated area. Specifically, HRCA staff indicated “there is no regulation limit or hazards on your site”. As part of the detailed design phase, grading requirements will be established and an advanced flood risk analysis will be undertaken for Traction Power Facility (TPF) sites to ensure final TPF designs mitigate the potential for impacts due to flood risk. HRCA will be consulted as required during detailed design to assess the spill risk from the adjacent Joshua’s Creek (extent, depth etc.) to determine any effects to the TPF design. Generally speaking when electrical substations are located in a floodplain, they must be flood-proofed. Whether flood proofing measures specifically apply to a site outside of HRCA regulated area will be further reviewed and determined at detailed design stage in concert with HRCA as appropriate. Also see response to comment #1 and #2.
13	Appendix 5c.	Flood Protection	Volume 1: Figure 3-41 Location of Proposed Oakville SWS Site, page 93: Please note that the Oakville SWS site may be subject to spill from the adjacent Joshua’s Creek. Development of the Oakville SWS site should ensure the site is graded above the upstream spill elevation. As indicated in detailed comments below, proposed track lowering and bridge alternations in the vicinity of Joshsua’s Creek may have the potential for spill to impact the Oakville SWS site, and any grading requirements to mitigate potential risk associated with the sill should be evaluated as part of the flood risk assessment that is advanced through detailed design.	See response to comment #1 regarding track lowering. It should be clarified that the Electrification undertaking does not entail addition of tracks – these works are being completed as part of separate Metrolinx projects. Metrolinx will work with conservation authorities during detailed design as required.
14	Appendix 5d.	Bridge Modifications	Volume 1: Table 3-4 Lakeshore West Rail Corridor – Summary of Bridge Modifications, page 144: Track lowering in the vicinity of Ford Drive/Royal Windsor Drive and at the Joshua’s Creek Crossing is noted, however the extent of the lowering is unknown at this time. Per Volume 3 – Section 4.1.10.1.1.2 Aquatic, P. 117, impacts to Joshua’s Creek cannot be determined until further design work is completed. Please note that the regulated floodplain associated with Joshua’s Creek is broad and is predicted to overtop the railway corridor at the creek crossing and at the Royal Windsor Drive crossing. Modifications to the crossing structure may negatively impact existing flood susceptible development upstream of the tracks, and track lowering may increase flood susceptibility of the tracks themselves. Conservation Halton cannot provide comment on potential impacts without a clearer understanding of the proposed track lowering in this area. The impacts of the electrification project on floodrisk (relative	These crossings were not listed in Table 3-4 as the purpose of this table is to summarize bridges/structures that will require modifications due to electrification. Conservation Halton regulation limits were provided to Metrolinx on June 7th, 2016. Based on this data, Chartwell Rd road crossing is not within the regulated area as shown on Figure LSW-28. The 4th Line crossing is identified as within the regulated area on Figure LSW-32. Figure LSW-39 identifies crossings of Appleby Creek within the regulated area. Potential effects with respect to regulated areas at these locations are included in Sections 3.2.11.1.4 and 3.2.10.1.4 and 3.2.12.1.4 of the Natural Environment Impact Assessment Report (Appendix A2).

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			to both adjacent development and the rail corridor utility) should be specifically evaluated to confirm that the proposed design will not negatively impact flood risk. It is also noted that track lowering at this location would be contrary to potential climate change adaptations listed in section 9.13.1 Potential Effects of Climate Change on the Project (p. 1147 Volume 3), which identifies elevation of assets to keep them from flooding. Please commit to involving Conservation Halton in the review of a flood risk assessment associated with track modification.	
15	Appendix 5e.	Track Modifications - Impact to Natural Environment	<p>Volume 1:</p> <p>Table 3-4 Lakeshore West Rail Corridor – Summary of Bridge Modifications, page 144:</p> <p>The following rail and road or regulated watercourse crossings located within Conservation Halton’s jurisdiction were not listed within Table 3-4:</p> <ul style="list-style-type: none">• Chartwell Road• 4th Line• Appleby Creek• Appleby Creek <p>Note: The list above does not include non-regulated local drainage features, and as such is not representative of a comprehensive list of all culvert crossings.</p>	Noted. A commitment will be added to EPR Volume 5 stating that excavated material associated with track lowering will be removed from the limits of Regulated Areas as defined under the <i>Conservation Authorities Act</i> wherever possible.
16	Appendix 5f.	General Comment	<p>Volume 1:</p> <p>Section 3.1.5.8.6 Track Lowering, page 193: To prevent loss of floodplain storage, and grade changes which impact hydraulic, hydrologic, or geomorphic function of regulated features and have potential to increase hazard risk, Conservation Halton’s policies generally do not support placement of fill within regulated areas. Therefore, it is requested that excavated material associated with track lowering be removed from the limits of the regulated area.</p>	The figure will be added to the Exec Summary section of Volume 3.
17	Appendix 5g.	Construction Staging	<p>Volume 1:</p> <p>Please add the figure illustrated on Page Ivii from Volume 3 to Volume 1 – Vegetation Clearing Zone (Page XXXV) for reference.</p>	Noted. A commitment will be added to EPR Volume 5 stating that wherever possible, staging areas shall not be located within the limits of Regulated Areas as defined under the <i>Conservation Authorities Act</i> .
18	Appendix 6.	Natural Environment - Species at Risk	<p>Volume 1:</p> <p>Staff note that staging and phasing areas have yet to be determined and will be identified at Detailed Design. Staff strongly recommend that these areas be located outside Regulated Areas, specifically creek floodplains.</p>	The EPR and Appendix A will be updated to reflect the most recent SAR information provided by MNRF and to reduce confusion regarding applicable legislation as per point f.
19	Appendix 7a.	Tree/Vegetation Compensation	<p>Volume 2:</p> <p>Staff note that Table 3-1 (Page 63) contains some errors and anomalies that require revision:</p> <ul style="list-style-type: none">a) Milksnake (<i>Lampropeltis triangulum</i>): The latin name is spelt incorrectly and shown currently as “Lampropelts” when it should be “Lampropeltis”. Please revise.b) Milksnake Provincial (SARO) rank is incorrect and should be listed as Not-at-Risk (NAR) instead of Special Concern (SC). Please revise.c) Monarch Butterfly (<i>Danaus plexippus</i>): The COSEWIC (SARA) status is incorrect. Monarch has been recently uplisted to Endangered (END) from Special Concern (SC). Please revise.	<p>Metrolinx will continue to consult with agency staff regarding vegetation removals/impacts and compensation. Please note that Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p>

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>d) Monarch Butterfly: Please be advised that since the recent uplisting of Monarch Butterfly by COSEWIC to Endangered, it is likely that this species will be uplisted Provincially (SARO) in Spring 2017.</p> <p>e) Staff note that “Designations” describe what “SC” and “THR” indicate but not “END”. Please revise to include what END indicates.</p> <p>f) In regards to bird species, the Federal and Provincial legislation is depicted in a confusing manner. All bird species listed in this table, excepting the Peregrine Falcon (protected under Fish and Wildlife Conservation Act [FWCA]) are protected under the MBCA, and receive additional protection under SARA and/or ESA 2007. Some species are listed as either “MBCA” or “SARA”. Does SARA supersede MBCA in this table? Or should both SARA/MBCA be denoted? Could this confusion be resolved for example as shown in the Provincial Legislation column for Peregrine Falcon showing “ESA 2007, FWCA”, species could be revised to “SARA, MBCA” if applicable. Please clarify the table and revise as necessary.</p> <p>g) Staff note that Red-headed Woodpecker is Federally protected under SARA and Provincially protected under MBCA. Please clarify and revise.</p> <p>Staff note that Eastern Wood Pewee is Federally protected under MBCA and Provincially under the FWCA. As this is a migratory bird species it is not protected under the FWCA. Please revise.</p>	<p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
20	Appendix 7b.	Construction Staging	<p>Volume 3:</p> <p>Staff note that future works (Page lxxv) will include the development of a Vegetation Management Plan which will be comprised of a Tree Inventory, Tree Protection Plan which includes construction storage/laydown and staging areas, and compensation. Please continue to consult with agency staff regarding vegetation removals/impacts and compensation.</p>	See response to comment #17.
21	Appendix 7c.	Natural Environment - Species at Risk	<p>Volume 3:</p> <p>Staff note that construction staging, phasing and laydown locations will be identified during the detail design phase. Staff would strongly recommend that these locations be located outside significant natural heritage features and functions such as creeks and associated floodplain.</p>	The requirement for additional surveys/mitigation and consultation with MNRF at the Detail Design phase regarding Barn Swallow nesting areas has been identified in Section 3.8.2.1.3 of the Natural Environment Impact Assessment report (see Appendix A).
22	Appendix 7d.	Natural Environment	<p>Volume 3:</p> <p>Section 4.1.12.1.1.3 identified nesting Barn Swallow on the Bronte Creek bridge. This species is a federally and provincially Threatened species protected under ESA 2007. The Ministry of Natural Resources and Forestry should be consulted early in the Detail Design stage for any requirements under the ESA 2007 to determine the appropriate mitigation for this species which may include the provision of alternative nesting habitat (i.e. kiosks). Please keep staff apprised of the consultation with MNRF.</p>	Metrolinx requests that HRCA please provide a copy of the document/research referred to for our review/incorporation into the Natural Environment sections of the EPR as/if appropriate.
23	Appendix 7e.	Natural Environment - Species at Risk	<p>Volume 3:</p> <p>Invasive/Non-native Species (Page 1152) has identified that Annual Rye can be used a cover/nurse crop. Recent research indicates that Annual Rye (<i>Lolium multiflorum</i>) can inhibit the growth of other species thereby hindering the establishment of native vegetation. Staff therefore recommend that it not be used as a nurse crop. Staff recommend Canada Wild Rye (<i>Elymus canadensis</i>) be used instead. Annual oats (<i>Avena sativa</i>) is a better non-native option should a fast-growing nurse crop be deemed necessary. Please remove reference to Annual Rye as cover/nurse crop throughout the volumes.</p>	Noted. Error will be corrected to state the timing window is April 30th to September 1st

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
24	Appendix 7f.	Stormwater Management	Volume 3: Bats (Page 1155, Bullet 2): This identifies an odd date range of Species at Risk Bats being protected by the timing window of “April 30th to July September 1st”. Please clarify the intent of this timing window and revise accordingly.	As noted in the Stormwater Management sections of Draft EPR Volume 3 and throughout the Preliminary Stormwater Management Report (Appendix K), the initial assessment of drainage, hydrologic analysis and Stormwater management provisions undertaken at the TPAP stage for TPF sites is considered preliminary. As also noted and committed to in the Draft EPR, further more detailed Stormwater Management plans and designs will be developed at the detailed design stage.
25	Appendix 7g.	Flood Protection	Volume 3: Section 4.13.1 Burlington TAP/TIPS, page 298 and 4.13.4 Oakville SWS, page 315: While Conservation Halton defers the stormwater management review associated with the TPS site to the City of Burlington and Town of Oakville, it is noted that the report fails to identify or discuss the presence of any external drainage that may need to be conveyed by the proposed perimeter ditches. The report also fails to identify the outlet for the proposed perimeter ditch/bioswale. These details, among others, will need to be addressed as the design advances.	See response to comment #2.
26	Appendix 8a.	Natural Environment - Species at Risk	Volume 3: 9.13.1 Potential Effects of Climate Change on the Project, page 1147: It is noted that in accordance with provincial direction, building flood protection structures for new infrastructure is less preferred if the flood risk may be reasonably avoided through development at an alternate location. In the context of this EA, it is recognized that flood protection may be required where the location of the existing rail infrastructure limits development options. Flood protection structures should be avoided, however, where the development may be re-located, or dry flood proofed.	Vol 5., Section 1.3.2.2.1 will be augmented to specifically mention Silver Shiner. Please note there are no in-water works proposed as part of electrification, therefore no adverse effects to Silver Shiner or their habitat anticipated.
27	Appendix 8b.	Flood Protection - Consultation	Volume 5: Section 1.3.2.2.1: Silver Shiner is a provincially Threatened species under SARO and protected under ESA 2007. Discussion of Silver Shiner should be included in this section. Please revise to include.	Conservation Authorities will be engaged as appropriate in the detailed design phase of the project with respect to development of stormwater management measures/plans related to traction power facilities, as well as in relation to any permitting/approvals processes that need to be satisfied with respect to implementing electrification infrastructure. Please see also, response to comment #19
28	Appendix 8c.	Construction Staging	Volume 5: Section 1.3.3.3 Conservation Authorities, Page 21: While it is appreciated that Metrolinx will engage CA’s on specific projects and adhere to requirements where possible and feasible on select aspects such as tree protection, TRCA requirements for sewer discharge and TRCA requirements for work within a regulated area, the requirements and policies of other CA’s should also be considered. It is noted that the project includes works that may alter the regulated floodplain of Joshua’s Creek, as well as flood infrastructure owned by Conservation Halton – i.e., connections to the Hager Rambo Diversion Channel. Clarity on how the design team will engage Conservation Halton with additional information related to these items as the project advances would be helpful, to ensure potential impacts can be evaluated and supported.	See response to comment #17.
29	Appendix 8d.	Natural Environment - Species at Risk	Volume 5:	Section 1.7.6 of Volume 5 includes mitigation measures for SAR where potential impacts have been identified. There are no anticipated impacts to this species or their habitat. Notwithstanding this, a subsection under Section 1.7.6 will be added to Volume 5 to specifically address Silver Shiner.

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Section 1.4.5: Construction staging and phasing areas will be determined at detail design phase. Staff would strongly recommend that these locations be located outside significant natural heritage features and functions such as creeks and associated floodplain.	
30	Appendix 9a.	Natural Environment - Mapping	Volume 5: Section 1.7.6: This section should be updated with discussions of Silver Shiner. Please revise.	Noted. Watercourse labels will be added to the ELC figures.
31	Appendix 9b.	Natural Environment - Mapping	Appendix A – Part A1: Staff note it would have been beneficial to have labelled the watercourses on the ELC figures.	A data request was sent to Conservation Halton on October 5th, 2015 with a follow up request on May 6, 2016. Regional Natural Heritage System elements were not provided to the project team as part of the data received on October 27th, 2015 which included ELC and species occurrence data. Data received on June 7th, 2016 included Conservation Halton regulation limits. If Conservation Halton can provide Metrolinx with this data, these elements will be included and discussed in the updated report.
32	Appendix 9c.	Natural Environment - Watercourses	Appendix A – Part A1: Staff note that the Terrestrial Maps (Appendix B) do not illustrate Regional Natural Heritage System elements. We recommend that this be added so that a full understanding of the potential impacts on the NHS are known.	<p>Potential impacts to watercourses associated with the installation of OCS elements have been identified as being indirect and associated with potential sediment run-off. Mitigation including general sediment and erosion control measures are anticipated to mitigate these potential impacts. The proposed track lowering within the vicinity of Ford Dr., Royal Windsor Dr., and Joshua's Creek has not been confirmed and is at the conceptual stage.</p> <p>With respect to track lowering and Joshua's Creek, please refer to response #1.</p> <p>Bridge modifications have been identified at Appleby Cr, Bronte Cr and Sixteen Mile Cr. However, no in-water works are proposed at these sites and impacts to these watercourses can be mitigated using standard debris containment methods. At this time, sufficient data is available for these watercourses and additional investigations are not warranted. There are no anticipated impacts to McCraney Cr associated with the OCS. Similarly the expansion of track is not within the scope of the electrification project works. The level of potential impacts at this time do not warrant benthic community monitoring.</p>
33	Appendix 9d.	Natural Environment - Watercourses	Appendix A – Part A1: Section 3.3.2 Aquatic (page 17): The report notes that detailed aquatic assessments are not required because the impacts to aquatic habitat associated with the electrification of the network are anticipated to be minimal. However, the report also notes that the extent of work required to electrify the corridor is not fully appreciated. In particular, staff suggest that the following four components will impact the aquatic environment and thus the surrounding area be assessed in greater detail (sampling methodology as indicated on page 17). <ul style="list-style-type: none">Joshua's Creek corridor (three structures: Ford Drive, Royal Windsor Drive, Joshua's Creek) — proposed track lowering.Major bridge crossings (Appleby, Bronte, Sixteen Mile Creeks) — modifications to allow construction of OCS.McCraney Creek crossing — possible modifications to construct OCS or expand track to accommodate more trains will encroach in regulated watercourse.A section of track approximately 100 metres east of Kerr Street is within 30 in of approximate top of bank of Sixteen Mile valley, any expansion of track to north would be into the valley.	Background data and information for these watercourses was determined based on the GO Transit Lakeshore West Corridor Expansion Report (URS, 2006) and Long Term Environmental Monitoring for Urban Creeks (CH, 2013). Should impacts to these watercourses be identified at Detail Design, additional investigations (as required) will be undertaken as appropriate and in accordance with applicable legislation to characterize the impacts.

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Depending on the extent of development, staff recommend that benthic invertebrate community information be collected in the field in addition to the proposed methodology described on page 17, at an appropriate scale and intensity using the Ontario Benthic Biomonitoring Network protocol. In terms of standard sampling methodology for fish and fish habitat, we recommend the Ontario Stream Assessment Protocol.	
34	Appendix 10a.	Natural Environment - Watercourses	Appendix A – Part A1: Section 4.2.5.2 Aquatic: Notwithstanding erosion and stormwater runoff associated with urbanization in Oakville, staff note that Joshua’s, Morrison and Wedgewood creeks still support populations of multiple fish species. The report cites URS work completed in 2005 or 2006 (page 40) but staff note that land use in upstream drainage area has changed considerably in the intervening years. This habitat should not be summarily discounted as poor and, in the event that the extent of work is expanded, additional work should be done to characterize the site.	Additional mitigation will be added/included in the report, specifically the requirement for debris containment at bridges over watercourses where bridge modifications are identified. At this conceptual stage, the exact method of debris containment (attachment to bridge only vs scaffolding) have not been defined. This will be further examined during Detail Design. Widening or lowering of bridges over watercourses is not proposed as part of the electrification project.
35	Appendix 11.	Natural Environment - Species at Risk	Appendix A — Part A2 - Natural Environment Final Draft Impact Assessment Report Section S Summary of Effects and Mitigation Measures: Table 5-1 describes a variety of project impacts and ways these effects may be reduced. We suggest that the proponent additional consider how the installation of the required infrastructure over watercourses may contribute harmful substances. Staff are particularly concerned about the locations where modifications to bridges are proposed (i.e. lowering and widening bridges). We recommend that mitigation methods to avoid depositing deleterious substances associated with these activities be described in the EA (e.g. debris collection system around the bridge), as well as impacts associated with the methods (e.g. placement of scaffolding of debris collection system in a watercourse).	Table 2-3 will be updated to reflect the comments noted in Comment #6.
36	General Comment 12.	Tree/Vegetation Removal	Appendix A2 Table 2-3: Please see comment #6, Volume 2, f, g, and h above.	All vegetation within the 7m vegetation clearance zone needs to be removed from within this defined zone for the reasons detailed in Section 3.6.4 of Draft EPR Volume 1. Notwithstanding this, as noted in response #19, a Vegetation Compensation Protocol will be developed and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.
37	General Comment 13.	Natural Environment - Watercourses	Staff express their concern with the application as to the potential effects on watercourses within CH jurisdiction that support communities of various species listed on the Ontario Ministry of Natural Resources and Forestry (OMNRF)’s Endangered Species Act (ESA): <ul style="list-style-type: none">• Bronte Creek: American Eel (<i>Anguilla rostrata</i>, Endangered), Silver Shiner (<i>Notropis photogenis</i>, Special Concern)• Fourteen Mile Creek: Redside Dace (<i>Clinostomus elongatus</i>, Endangered)• Sixteen Mile Creek: <i>N. photogenis</i> Staff recommend that the project be subjected to the ESA screening process. OMNRF has requested that Conservation Authorities direct proponents’ inquiries regarding the ESA screening process to the Species at Risk Biologist (esa.aurora@ontario.ca).	See response to comment #4. Noted. Given the conceptual nature of the design at the EA stage, potential impacts to SAR will require further review/assessment as the design progresses. Commitments have been made to further investigations and consultation with the MNRF during the detail design phase where potential impacts to SAR have been identified.
38	General Comment	Natural Environment - Watercourses	In addition, staff note that many of CH watercourses support migratory species that spawn in both the cold- (September 15 to June 30) and warmwater (April 1 to June 30) fisheries timing windows. To that end, we strongly recommend that construction above these watercourses be avoided during those	No in water works are proposed at this time as part of planned Electrification works. As a preferred option Metrolinx will typically avoid installing OCS poles on bridges. In case OCS poles needs to be installed on bridges, the installation can be accomplished from the track and

Item No.	HRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
	14.		sensitive times. As the coldwater window is the more restrictive of the two, construction should be avoided between September 15 and June 30 of any year.	will not require any in water works. If in water works are required for any reason, Metrolinx will follow the timing window restrictions.
39	General Comment 15.	Natural Environment – Breeding Birds	<p>Staff appreciate the overall intent to reduce or mitigate the potential for adverse effects on birds and their nests. As identified in a number of locations within the different volumes of the Draft EA, no vegetation will be removed during the breeding (nesting) bird season (generally April 1 - August 31) to avoid the harm or destruction of nests, eggs and young of bird species as per: the Migratory Birds Convention Act (MBCA). In Volume 5, Section 1.7.6.7 Migratory Bird Species (Page 44) it indicates that if vegetation clearing is required during the breeding bird season then consultation with Environment and Climate Change Canada’s Canadian Wildlife Service (CWS) is required. In addition Bullet 3 indicates that a survey for migratory bird nests (including SAR) will be required prior to vegetation removals.</p> <p>Regarding the above, staff emphasize that many species of birds precede and exceed the breeding bird window (e.g. early April, mid-August to early September), and that nesting surveys prior to removals do not reliably identify all nests in the vicinity of the proposed works.</p>	As noted in the EPR and the Natural Environment Impact Assessment Report (Appendix A2) vegetation removals will occur outside of the migratory bird window wherever possible. However, there may be circumstances where this is not possible and in such cases nesting surveys will be completed prior to any removals per standard protocols. If active nests are found, they will not be removed. We recognize that the window is not a definitive date and bird nesting may occur before or after the dates identified. However, the window of April 1 to August 31 is the standard that is used to define when breeding bird season occurs and as such will be used to define when vegetation removals cannot occur without appropriate screening for nesting activity.
40	General Comment 16.	Natural Environment – Breeding Birds	<p>In Volume 3, in a number of locations the following bullets are listed:</p> <p><i>Vegetation shall be inspected for nests and eggs prior to maintenance activities;</i></p> <p><i>Nests and eggs of protected migratory birds shall not be destroyed during migratory bird nesting season (April 1st to August 31st) to avoid a permit under the Migratory Birds Convention Act. If an active nest of a migratory bird must be damaged or destroyed, a permit under this Act is required.</i></p> <p><i>Nests and eggs of protected Species at Risk birds shall not be destroyed at any time.</i></p> <p>Staff have concern that the way Bullet 2 is worded it appears to say that removing an active bird nest outside April 1 to August 31st is acceptable. If an active bird nest is identified at any time, staff strongly recommend that development of site-specific mitigation plan in consultation with CWS be developed.</p>	Noted. Revisions will be made to clarify to say that active nests will not be removed at any time and should an active nest be found that site specific mitigation will be developed in consultation with CWS.
41	General Comment 17.	Natural Environment - Mapping	The figures presented in the various documents would have benefited from Conservation Authority jurisdictions being illustrated on them, as well as Municipal jurisdictions.	Due to the large scope and size of the study area of the electrification project, mapping and figures were prepared to depict as much detail as possible, recognizing that certain details were not feasible to include. In the interest of ensuring the content of the maps was primarily focused on the data being presented, it was not possible to include additional labels and lines as this would make the mapping too complicated to read.

Table 1-51: Lake Simcoe Region Conservation Authority Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
LAKE SIMCOE REGION CONSERVATION AUTHORITY			
1	Permits & Approvals General Comment	The LSRCA recognizes that as a Crown Agency, Metrolinx is exempt from the Conservation Authorities Act and as such does not have a requirement to apply for and obtain permits from conservation authorities.	Acknowledged. As a provincial agency, Metrolinx is not subject to conservation authority permits and approval process, however, we will endeavour to adhere to relevant permits/approvals requirements as a best practice.
2	Detailed Compensation Protocol, Specific Impact Summaries General Comment	There is a general theme throughout the documents which outlines that items will be addressed at the detailed design stage. It is difficult to comment on potential and anticipated impacts when the details are somewhat vague. The LSRCA is awaiting the determination of a detailed compensation protocol and specific impact summaries, once these have been provided, we will be able to provide comments with respect to the impact to LSRCA lands and also to provide direction as it pertains to the land acquisitions required as part of this project.	<p>As stated in the Draft EPR, Metrolinx is currently working with municipalities and Conservation Authorities on the development of the Tree/Vegetation Compensation Protocol. As part of this, Metrolinx will continue to engage stakeholders in finalizing the details of the protocol.</p> <p>Based on the conceptual design prepared as part of the TPAP and available Teranet data, there are four areas of LSRCA owned land parcels (Teranet PIN numbers 034270753, 34330289, 580400022, 580530008) that are directly adjacent to the Barrie rail corridor (and associated OCS/Vegetation Removal Zone) as shown on the attached maps. There is a possibility that tree/vegetation removal may be required on these lands, however this will need to be further reviewed and confirmed as part of the detailed design phase based on the final OCS design. Regarding mitigation, as outlined below, as part of the Tree/Vegetation Compensation Protocol, if vegetation removals are required within conservation authority lands, applicable removal and restoration requirements will be followed.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality- wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from the ROW e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
3	GIS Mapping Location Comment	Current Environmental Mapping illustrates that the Newmarket SWS, Gilford PS, Barrie TPS and Lincolnville Stations (within LSRCA) are not within identified hazard areas.	Correct.
4	Stormwater Management Appendix K, Section 2.2, Page 21 and 22	The document entitled "LSRCA Technical Guidelines for Stormwater Management Submissions Approval Date: June 24, 2016, Effective Date: September 1, 2016" is to be referred to and utilized in this SWM study.	The Stormwater Management (SWM) Assessment carried out as part of the Transit Project Assessment Process (TPAP) was preliminary in nature as documented in the Preliminary SWM Assessment for TPF Sites contained in Appendix K. Lake Simcoe Region Conservation Authority (LSRCA) Guidelines will be considered and followed as part of the detailed design/detailed SWM

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			Assessment to be undertaken during detailed design for the Traction Power Facility (TPF) sites within LSRCA jurisdiction.
5	Stormwater Management Appendix K, Section 3.4, Pages 67 -84	The 1:25 through 1:100 year run off coefficients need to be increased in accordance with Section 21, Appendix C of our SWM Technical Guidelines (MTO Design Chart 1.07)	Flow computations presented in the report have considered the factor for increasing the runoff coefficient as recommended in the Preliminary SWM Assessment Report contained in Appendix K, i.e. <ul style="list-style-type: none">for 1:25 year storm runoff coefficient is increased by 10 %for 1:50 year storm runoff coefficient is increased by 20 %for 1:100 year storm runoff coefficient is increased by 25 % Please refer to Appendix A of Stormwater Management Assessment Report (Appendix K).
6	Stormwater Management Appendix K, Section 3.4, Pages 67 -84	Volume control is required for all new development in accordance with Section 2.2.2 of our Technical Guidelines.	Development sites within LSRCA jurisdiction have small impervious areas (less than 0.5 ha). Therefore the LRSCA volume control requirement does not apply to these sites. However vegetated ditches and bio-swales are proposed for all sites to provide peak shaving, runoff quality and water balance for the development area. Details for these measures will be provided at subsequent stages of detailed design.
7	Stormwater Management Appendix K, Section 3.4, Pages 67 -84	Peak flow control (to pre-development rates) is required for all new development in accordance with Section 2.2.1 of our Technical Guidelines. A number of locations show increases in peak flows.	At all TPF sites within LSRCA jurisdiction, there is no major site development as defined in the Lake Simcoe Protection Plan (LSPP). Therefore the LRSCA peak flow control requirement does not apply to these sites. However, as stated in the response to Comment #6 above, vegetated ditches and bio- swales are proposed for all sites to provide peak shaving, runoff quality and water balance for the development area. Details for these measures will be provided at subsequent stages of detailed design.
8	Stormwater Management Appendix K, Section 3.4, Pages 67 -84	Infiltration will only be permitted for peak flow control if the criteria in Appendix B of our Technical Guidelines are met.	Bio-swales will be designed, on the basis of LSRCA Guidelines, at detailed design stage. Geotechnical investigations, at a later stage, will provide soil type, infiltration rates, groundwater depth and information regarding presence of soil contamination.
9	Natural Science – Vegetation Clearing Zone EPR - AppendixN	A vegetation clearing zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors to accommodate the Overhead Contact System (OCS) requirements. Vegetation Clearing Zones have been identified in Appendix N – Figures BR-93 (Bailey Ecological Park), BR-95 and BR-96 (Wesley Brooks CA), BR-103-107 (Rogers Reservoir CA), BR-122-124 (Scanlon Creek CA) show Vegetation Clearing Areas. At this scale it is too difficult to determine how many trees or vegetation may be removed specific to LSRCA properties. The analysis contained in Volume 3 - Impact Assessment has categorized the ecological impacts as either: negligible, low moderate or high, tree removal impacts within ELC communities was categorized as minor, fair, or extensive. It appears that all of the extensive impacts are in the woodland or forest categories. For us to provide a land perspective on these impacts they will need to be further assessed including the details we requested in our comments on the impacts of the Barrie Rail Corridor Expansion Project	While potential effects to various Conservation Areas have been identified, the layouts at this point are conceptual. The exact areas and number of trees to be impacted will be defined at Detail Design through tree/vegetation inventories based on the final layout. It should be noted that the extent of tree removals not the impacts within the ELC communities were classified as 'minor, fair, or extensive'. Tree canopy cover within woodlands or forested communities are high and therefore extensive tree removals will be required in these areas. Further, more detailed tree/vegetation inventories will be undertaken at the Detail Design stage.
10	Natural Science - Restoration and Enhancement Plan Table 11-1	Please provide details on what the "Metrolinx Restoration and Enhancement Plan" will be. This should be created in consultation with the Conservation Authority.	As stated in response to comment #2 above, Metrolinx is continuing to work towards establishing the specifics of the Tree/Vegetation Compensation Protocol in coordination with municipalities and Conservation Authorities. The final EPR will contain commitments to the Protocol which will be made publicly available once final. As noted in response #2 above with respect to restoration:

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>As the main premise of the Tree/Vegetation Compensation Protocol will be focused on compensation and restoration measures, the term ‘enhancement’ will be revised within the Natural Environmental Impact Assessment Report and final EPR to avoid confusion.</p>
11	Natural Science – Tree/Vegetation Compensation Protocol Table 11-1	Please advise when further consultation will be taking place regarding the Metrolinx Tree/Vegetation Compensation Protocol. LSRCA would like to be involved in the creation of this protocol.	See response to comment #2.
12	General Report – Approvals & Permitting Cover Letter	The cover letter which accompanied the draft reports included a section "Sections that may be of interest to you:", this provided reference to Sections 5.1, 5.4, 5.8 and 5.10 of Volume 5. These sections do not exist in Volume 5, please advise which volume is being referred to.	Apologies for the confusion. Sections in Volume 5 had been revised to Sections 1.1, 1.4, 1.8, 1.10.
13	Engineering & Design - Vegetation Clearing Zone Conceptual Electrification Corridor	The infrastructure area and vegetation clearing area exceeds the limits of the Existing GO ROW in some places. How will these encroachments be addressed?	<p>Based on the conceptual design developed, the OCS pole foundations can generally be accommodated within Metrolinx owned rail Right-of-Way (ROW), and no property impacts/conflicts are anticipated due to placement of OCS infrastructure along the corridors. There are engineering solutions that can be implemented to avoid the need to acquire additional property where the OCS Impact/Vegetation Removal zone may fall outside of Metrolinx ROW.</p> <p>With respect to areas where the Vegetation Removal zone may fall outside of Metrolinx ROW, also see response to Comment #2.</p>
14	Natural Science – ELC Codes GeneralComment	The ELC codes used in the Natural Environmental Report and Volumes 1-5 use a mix of the published First approximation and the Second, which to date has not been published in Ontario. It is our preference that the reports choose one to maintain consistency. Please note that some Conservation Authorities do not accept the second approximation.	It is recognized that updated ELC classifications are still under review. In order to provide the best possible classification for each community, a mix of the first and second approximations was used. No revisions to ELC community classifications are proposed.
15	Natural Science – ELC Surveys General Comment	ELC should be completed during multiple timing windows, surveys for vascular plants completed in September and October are outside of the window that would contribute valuable information related to vascular plants, especially those considered at risk federally, provincially, regionally or locally. The surveys completed to date cannot adequately address the level of the impact without this information.	Due to the vast area covered by the project, a desktop/GIS analysis method was utilized to classify ELC communities along the rail corridors. Field surveys at the traction power facilities and spot verifications along the corridors were also undertaken to supplement the desktop assessment. A commitment has been made to conduct detailed tree inventory/vegetation surveys during the Detail Design phase as outlined throughout the Draft EPR.
16	Natural Science – Vulnerability Indicators General Comment	The reports use canopy cover, size, and potential species at risk habitat as vulnerability indicators (minor, moderate and extensive) for impacts however these factors do not necessarily provide adequate information to determine impacts associated with the electrification. The report does not address long-term impacts to landscape fragmentation, quality of ecosystem services and functions lost (regardless if a habitat is common, could be high quality), rare communities in the CUM, impact to the local or regional area. For example, a FOD community may be a small % of the entire contiguous woodland however it may be a larger % of the type of habitat if the remainder is dominated by coniferous or mix woodland or a band of woodland removal may greater alter the forest interior habitat. Impacts needs to consider additional factors and long-term consequences. Non- specialized habitats does not equate to low associated impacts.	<p>Along the rail corridor segments, the majority of the vegetation removals will occur within the existing MX right of way and not within the natural heritage system areas. Further delineation of natural areas to be affected by the vegetation removal zone will be confirmed during Detailed Design and this commitment is identified in the Natural Environment Impact Assessment Report as well as the Draft EPR. Based on the limited linear vegetation removals required outside of the ROW, the ecological function of natural heritage areas are not anticipated to be adversely affected.</p> <p>In addition, see response to Comment #2.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
17	Natural Science – CUM Impacts General Comment	It appears that CUM represents cultural meadow, native meadow and grassland habitats in the LSRCA, further investigation should be completed to accurately identify these habitat types and as a result their level of impact. For example, grassland loss would not likely be a minor impact in comparison with a cultural non-native meadow. This should be completed for all study areas where CUM exists including the TAP, TPS, PS and SWS stations.	While native species are more favourable from an ecological perspective, the impacts and mitigation these communities would be the same as for all non-native CUM communities. Detailed tree inventories and vegetation surveys will be completed at Detail Design to further classify natural heritage communities that will be impacted. Further description of the TPF facility communities will be added to the Natural Environmental Impact Assessment Report relating to native vs non-native community composition and relative ecological importance.
18	Natural Science – Species at Risk Impacts General Comment	Where a potential impact to Species at Risk or Significant Wildlife Habitat has been identified at the candidate assessment stage, Metrolinx should consider this an impact until further studies determine otherwise.	Metrolinx relied on data provided by agencies with respect to SWH and very little information is available. Potential for SAR was identified within the Natural Environmental Impact Assessment Report. Where SWH or potential habitat for SAR have been identified, potential impacts to these areas have been identified, and mitigation measures proposed within the EPR.
19	Natural Science – Impacts to Natural Heritage Features General Comment	Impacts to other Natural Heritage Features, such as valleylands, Significant Wildlife Habitat and Natural Areas Abutting Lake Simcoe have not been specifically identified or addressed.	Potential effects to SWH and Valleylands will be added to the Final EPR where information is available. The assessment relied on data provided by agencies and limited information is available. Areas within the Lake Simcoe Protection Plan area will also be identified in the updated report.
20	Natural Science – Mitigation Strategies General Comment	Appropriate, mitigation strategies should be identified for regionally or locally rare species. For example, near the rail lines, large populations of Yellow Lady's Slipper have been observed, location or seed harvesting may be appropriate for species.	The Provincial Policy Statement (PPS), 2014 was reviewed for reference/language of locally and regionally rare species. Under the PPS there is no reference to protection of locally and regionally rare species, only to Species at Risk and their habitat. With this context in mind, and since Metrolinx is a provincial agency, the assessment of locally and regionally rare species is not applicable. Also, please see response to comment #2
21	Natural Science – Vibration, Noise, Lighting, Air Impacts GeneralComment	The environmental reports should identify the long-term impacts associated with vibration levels, noise, lighting and air quality especially in the zone of impact where natural heritage features exist and how species physiological processes will be affected, such as breeding/roosting/foraging birds, fish migration through culverts, mammal migration in lighted areas.	Detailed impact assessment studies related to air quality, noise, and vibration have been documented in the following technical reports that were appended to the Draft EPR: <ul style="list-style-type: none">Appendix F - Air Quality Assessment Report: is composed of two parts including Part F1 – Air Quality Baseline Conditions Report, and Part F2 – Air Quality Impact Assessment Report.Appendix G - Noise and Vibration Modelling Reports: is composed of six parts including G1 – USRC Impact Assessment Report, G2 – LSW Impact Assessment Report, G3 – Kitchener Impact Assessment Report, G4 – Barrie Impact Assessment Report, G5 – Stouffville Impact Assessment Report, G6 – LSE Impact Assessment Report No additional lighting is required along the corridors as a result of electrification, as such there are no long-term lighting impacts associated with the project. With respect to potential effects on wildlife related to noise and other short term construction activities, the EPR and Appendix A2 will be augmented to including the following statements/mitigation measures. Construction traffic will generate dust, noise and light that may affect vegetation and wildlife. During the growing season, dust can coat vegetation, limiting photosynthesis, respiration, transpiration and other growth processes. Wildlife may be temporarily displaced during construction. However, generally speaking these animals are already exposed to high noise levels and are tolerant of urban conditions. Mitigation measures to reduce or mitigate the potential for short term adverse effects caused by construction activities include: <ul style="list-style-type: none">Dust should be controlled as much as possible by watering of appropriate surfaces. The contractor shall adhere to relevant guidelines and Ontario Provincial StandardSpecifications for dust control. Appropriate lengths of silt fencing will be installed along the perimeter of minimized, designated work areas to limit construction impacts.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">• All construction equipment and vehicles will yield the right-of-way to wildlife, if it is safe to do so.• Advise workers to perform visual survey of machinery and work area prior to commencing work since wildlife may be found basking or hiding on or under equipment, rocks, debris piles etc.• Do not allow construction debris to accumulate on-site and on the soils surface but regularly clean up the site to reduce the possibility of wildlife using debris piles for shelter.• Clean up all litter daily and provide waste disposal containers so wildlife does not ingest indigestible materials or become entangled in debris.• Any wildlife incidentally encountered during construction will be protected and will not be knowingly harmed.• Advise workers to stop work and inform the Contract Administrator if any snakes, turtles or other potential Species at Risk are encountered.• Advise workers to perform a visual survey of machinery and work area prior to commencing work since wildlife may be found hiding in or under equipment, rocks, debris piles, etc. and any individuals found shall be left to move on their own or moved properly out of harm's way in the direction they were heading.• All workers should be provided with awareness training (e.g. factsheets) that addresses the existence of Species at Risk on site, identification of those species and proper actions when an individual is encountered and/or needs to be moved out of harm's way.• Report all Species at Risk sightings and encounters to the appropriate MNRF District office using the appropriate reporting form within two business days.• If a nesting snake or turtle is found the MNRF shall be notified immediately and a 10 m buffer zone shall be flagged around the site and that area protected from harm during the nesting season.
22	Natural Science – Survey Methodology General Comment	Field surveys should be completed within the appropriate windows in order to get accurate information to guide the detailed design.	See response to comment #15.
23	Natural Science – Impact Extent General Comment	Extent of impacts should be prioritized as an additional category in the summary tables (low, moderate, extensive)	Based on the level of assessment completed to date as part of the TPAP to describe the extent of vegetation removals, categories of impacts have already been categorized as outlined in the Methodology section of the Natural Environment Impact Assessment Report (Appendix A2) and in Draft EPR Volume 3. Further categorization would not add any value to the current assessment, however as noted in the EPR, additional more detailed tree inventory work will be completed during detailed design to further quantify tree removals.
24	Natural Science - Mitigation Measures General Comment	Mitigation measures such as edge management for a variety of habitats needs to be considered as part of the restoration, clear cut of woodlands and wetlands may them vulnerable to erosion from wind and water but also invasive species.	Acknowledged. These measures will be considered.
25	Natural Science – Vegetation Removals General Comment	Offsetting for features should be determined at a high level prior to any removals. To date the Conservation Authorities have been involved in discussing individual tree losses not feature loss. The LSRCA would like to continue these discussions with the appropriate parties in a timely manner.	Acknowledged. Please see response to comment #2

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
26	Natural Science – Migratory Birds GeneralComment	Migratory Birds Convention Act breeding bird window is April 1 - August 31 in the LSRCA watershed	MBCA compliance is acknowledged throughout EPR Volume 3 and the Natural Environmental Impact Assessment Report. Specifically, project activities (e.g., vegetation clearing, bridge modifications) will occur in such a way that no active nests of migratory birds are destroyed; this will include adherence to the breeding bird window, where applicable.
27	Natural Science – Wetland Survey Methodology GeneralComment	The report refers to amphibian surveys conducted in the Wilson Creek Marsh PSW however not completed in other wetland habitats through the LSRCA corridor, further explanation is required as to how wetland survey areas were chosen.	Due to time and access restrictions, not all wetland features could be evaluated for amphibian breeding activity. Areas that were considered more significant (i.e. PSWs) and were accessible were visited to gain an overview of amphibians in the study area. Regardless of confirmation of amphibian breeding activity, all wetland areas received the same level of mitigation protection and commitment has been made to undertake further delineations of natural areas at Detail Design.
28	Natural Science - Monitoring General Comment	Metrolinx should consider long-term monitoring commitments to determine impacts associated with the project not solely construction or restoration.	Based on the assessment of natural environmental effects anticipated in relation to the electrification undertaking as documented in Appendix A and the Draft EPR, and considering the implementation of the numerous mitigation measures proposed to mitigate potential adverse effects (see Section 11 of Draft EPR Volume 3 for a detailed summary of these measures), long term monitoring was not deemed warranted. Significant adverse natural environmental effects to ecological units are not anticipated. Notwithstanding this, the need for monitoring will be reviewed again during detailed design based on the additional investigations/work to be completed such as tree inventories, SAR habitat investigations, etc. and if deemed necessary, long term monitoring may be implemented on a case by case basis and become part of the requirements of the Environmental Management Plan.
29	Natural Science – Wetland Evaluation GeneralComment	All unevaluated wetlands as identified in LIO or through the LSRCA mapping that were determined to not be wetlands through the study will require field-truthing with the LSRCA to confirm the status of the feature. Further in Volume 4 the stretch between Bathurst Street and Aurora Go Station identifies no unevaluated wetlands present however describes unevaluated wetland polygons observed in the subsequent paragraphs.	The area of concern, BR-6, was reviewed and contains three Unevaluated Wetlands. Two are located within FOM communities and one is located within a CVR/CUM community. As ELC community classifications were mainly completed using air photo interpretation, unevaluated wetland areas may not have been identified. Metrolinx will review all LIO mapped unevaluated wetlands and ensure these areas are identified in project mapping.
30	BRCE Project Comments General Comment	Attached for reference are the comments provided for the BRCE Project. These comments with respect to identified natural heritage features and hazard lands are applicable to and should be taken into consideration for this subject Electrification TPAP Project.	Acknowledged. Please note that the GO Rail Network Electrification and BRCE projects are being assessed as separate TPAPs with consideration for areas of overlap. We will continue to coordinate between ongoing Metrolinx TPAPs so that all stakeholder comments are addressed, documented in the respective Environmental Project Reports and considered during detailed design.
31	BRCE Comment – Conservation Authorities Act General Comment	The LSRCA recognizes that as a Crown Agency, Metrolinx is exempt from the Conservation Authorities Act and as such does not have a requirement to apply for and obtain permits from conservation authorities.	Acknowledged. As a provincial agency Metrolinx is not subject to conservation authority permits and approval process, however, we will endeavour to adhere to relevant permits/approvals requirements as a best practice.
32	BRCE Comment General Comment - Disposition Process	Be advised that under the Ministry of Natural Resources and Forestry policies, the LSRCA requires approval from the Minister of the Ministry Natural Resources and Forestry (MNRF) or the District Manager for the disposition of lands acquired through ministerial orders-in-council. As several of the properties impacted by this project were acquired through ministerial orders (Bailey Ecological Park, Wesley Brooks CA, Scanlon Creek CA) the LSRCA requires Board and ministerial approval to dispose of land. The approval of LSRCA’s Board must indicate that the authority is satisfied with the environmental assessment of LSRCA properties, has accepted the value of the lands to be transferred and that the project meets the objects of the Lake Simcoe Region Conservation Authority. How will the disposition process with Metrolinx follow the Conservation Authorities Land Disposition Policies of the MNRF?	Acknowledged. This comment is specific to the Barrie Rail Corridor Expansion Project (BRCE). A written response to this comment was provided by the BRCE Transit Project Assessment Process (TPAP) project team on May 19, 2017 for LSRCA’s consideration. Please note that the GO Rail Network Electrification and BRCE projects are being assessed as separate TPAPs with consideration for areas of overlap. We will continue to coordinate between ongoing Metrolinx TPAPs so that all stakeholder comments are addressed, documented in the respective Environmental Project Reports and considered during detailed design.
33	BRCE Comment General Comment -	The reports address the land requirements for the rail expansion; will additional temporary working easements be required on LSRCA property for site access, staging or construction compounds? If so	Please refer to response to comment #32

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
	Temporary Easements	these will need to be identified, surveyed and included in the compensation for temporary easements along with the fee simple property rights (Full Narrative Appraisals).	
34	BRCE Comment General Comment - Copies of Reports	At least two sets of hard copy of the final reports should be provided for LSRCA for our files. Please provide copy to Melinda Bessy, LSRCA Development Planner and Kevin Kennedy, LSRCA Land Securement Officer.	Please refer to response to comment #32 with respect to BRCE. The next phase of review as part of the Electrification TPAP will entail the regulated 30 day public review timeframe for stakeholders to review the Final EPR and provide any outstanding comments which will occur following issuance of the Notice of Completion. The report will be made available electronically and at public viewing locations that will be publicized upon issuing the TPAP Notice of Completion. Requests for hard copies will be reviewed on a case-by-case basis.
35	BRCE Comment General Comment - Nuisance Impacts	Nuisance impacts such as noise, dust and others may impact the conservation area and public experience – these impacts will also apply to all LSRCA adjacent properties. Please provide response addressing how the social and natural environment impacts to the use of public trails, parks and education centres is being addressed by Metrolinx.	Please refer to response to comment #32 with respect to BRCE. For the Electrification Project, nuisance impacts during construction will be minimized using construction best practices and mitigation measures designed to minimize construction noise, dust and vibration, as described in the EPR. Construction management plan as well as traffic management plan will be developed and implemented. Please refer to EPR Volume 3; Appendix A (natural Environment); Appendix E (Land Use & Socio-Economic); Appendix F (Air Quality); and Appendix G (Noise & Vibration) for relevant impact assessment and mitigation details.
36	BRCE Comment – Natural Science	Sheppard's Bush Conservation Area (AURORA). It is understood that The Sheppard's Bush Conservation Area is within the study area for BRCE Study Area. The report states that the LSRCA owns this property, be advised that the property is owned by the Ontario Heritage Trust (OHT) and that the LSRCA manages the property under formal agreement with OHT with support from the Town of Aurora. The property also contains two buildings – one a residential home and the second a historic house currently being used as office space by the Windfall Ecology Centre. This property is located at mile marker 29.53 and is 20.1 metres from the existing rail ROW. Please note that the ROW south of Mile Marker 29 runs through an area regulated by Ontario Regulation 179/06 under the <i>Conservation Authorities Act</i> (O.Reg 179/06). These lands are regulated as they are identified as being within a flood hazard area.	Please refer to response to comment #32
37	BRCE Comment – Natural Science	Nokiida / Tom Taylor Trail - Bailey Ecology Park (NEWMARKET). It is understood that the Nokiida / Tom Taylor Trail is within the BRCE Study Area, this trail runs through the Bailey Ecology Park at Mile Marker 32.44. These lands are owned by the LSRCA and the existing rail ROW runs through this property. The majority of these lands are regulated (O.Reg 179/06) as they are identified as being a flood hazard area. Any site alteration or development within this area will need to address the identified flood hazard. Lands within the Bailey Ecology Park are identified as being "MNR unevaluated wetland", the Natural Heritage Report addresses wetland features. Please refer to comments pertaining to the Natural Environment Report for further detail. The report provides that 0.073 ha of land from this property is to be acquired by Metrolinx. As part of the formal disposition the LSRCA will require; Full Narrative Appraisals, detailed site evaluations documenting the impacts to the property including predicted impacts, proposed mitigation measures, restoration/compensation plans and net environmental impacts.	Please refer to response to comment #32
38	BRCE Comment – Natural Science	Wesley Brooks Conservation Area (NEWMARKET). It is understood that Wesley Brooks Conservation Area is within the BRCA Study Area. These lands are located at Mile Marker 33.43 and the existing rail ROW is located along the western extent of this property. The majority of these lands are within a regulated flood hazard area, accordingly, any site alteration or development within this area will need to address the identified flood hazard. Lands within the Wesley Brooks Conservation Area are identified as being "MNR unevaluated wetland", the Natural Heritage Report addresses wetland	Please refer to response to comment #32

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		features. Please refer to comments pertaining to the Natural Environment Report for further detail. 0.005 ha of land from this property is to be acquired by Metrolinx As part of the formal disposition the LSRCA will require; Full Narrative Appraisals, detailed site evaluations documenting the impacts to the property including predicted impacts, proposed mitigation measures, restoration/compensation plans and net environmental impacts.	
39	BRCE Comment – Natural Science	Mabel Davis Conservation Area (NEWMARKET). The Mabel Davis lands are located at Mile Marker 34.49 and are ~43.5 metres from the existing rail ROW. It is noted that the ROW lands in this area are within a regulated flood hazard area and therefore any site alteration or development within this area will need to address the identified flood hazard. Lands within the Mabel Davis Conservation Area are identified as being "MNR unevaluated wetland", the Natural Heritage Report addresses wetland features. Please refer to comments pertaining to the Natural Environment Report for further detail.	Please refer to response to comment #32 With respect to the Electrification project, the addition of the electrification infrastructure along existing rail corridors will not adversely affect flooding or flood risk. A note will be added to EPR Volume 3 to make this clear.
40	BRCE Comment – Natural Science	Rogers Reservoir Conservation Area (EAST GWILLIMBURY). The Rogers Reservoir Conservation Area lands are located at Mile Marker 35.61 and the existing rail ROW runs along the eastern part of the lands. It is noted that the majority of the ROW lands in this area are within a regulated flood hazard area. The ROW is also located on lands adjacent to unevaluated wetland and "other evaluated wetland" which forms part of the Holland Marsh Wetland Complex. Any site alteration or development within this area will need to address the identified flood hazard and wetland features. The Natural Heritage Report addresses the proposed development adjacent to wetland features. Please refer to comments pertaining to the Natural Environment Report for further detail. 0.466ha of land from this property is proposed to be acquired by Metrolinx. As part of the formal disposition the LSRCA will require; Full Narrative Appraisals, draft reference plans showing the subject parcel(s) detailed site evaluations documenting the impacts to the property including predicted impacts, proposed mitigation measures, restoration/compensation plans and net environmental impacts. The report provides that this acquisition is not expected to affect any structures or flood management works. Note the reservoir has been drawn down and no longer functions as a flood control structure.	Please refer to response to comment #39
41	BRCE Comment – Natural Science	Scanlon Creek Conservation Area (BRADFORD WEST GWILLIMBURY). Scanlon Creek Conservation Area is located at Mile Marker 43.86. The existing rail ROW bisects the property and is predominantly within an area regulated for the identified flood hazard and for being adjacent to a Provincially Significant Wetland (Holland Marsh Wetland Complex). The ROW and lands east of the ROW are designated Protected Countryside - Natural Heritage System by the Greenbelt Plan. Any site alteration or development within this area will need to address the identified flood hazard and minimize impacts to the PSW. The Natural Heritage Report addresses the proposed development adjacent to wetland features. Please refer to comments pertaining to the Natural Environment Report for further detail. The Mapping illustrates that there are lands to be acquired from the LSRCA within this property, however this has not been included in a table in the report (following Table 5-15, should there not be a table following 5-15 which indicates how much land is required to be acquired from Scanlon Creek Conservation Area?). It is our understanding that the project involves the acquisition of a small portion of LSRCA's Scanlon Creek CA (0.348 ha.). As part of the formal disposition the LSRCA will require; Full Narrative Appraisals, detailed site evaluations documenting the impacts to the property including predicted impacts, proposed mitigation measures, restoration/compensation plans and net environmental impacts.	Please refer to response to comment #39

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
42	BRCE Comment – Natural Science	LUCK PROPERTY (INNISFIL). The Luck Property is located at Mile Marker 49.44. The existing rail ROW runs along the eastern boundary of the property and bisects an identified wetland feature as well as floodplain and over an identified watercourse. Any site alteration or development within this area will need to address the identified watercourse and associated erosion and flood hazards as well as minimization of the impacts to the unevaluated wetland. Please see comments pertaining to the Natural Environment Report regarding wetland features. The project involves the acquisition of a small portion of LSRCA’s Luck property (0.106 ha.). As part of the formal disposition the LSRCA will require; Full Narrative Appraisals, detailed site evaluations documenting the impacts to the property including predicted impacts, proposed mitigation measures, restoration/compensation plans and net environmental impacts.	Please refer to response to comment #32 Regarding electrification, the addition of the electrification infrastructure along existing rail corridors will not adversely affect flooding or flood risk. A note will be added to EPR Volume 3 to make this clear.
43	BRCE Comment	LSRCA requires Metrolinx to continue consultation with the working group (including Municipalities and Conservation Authorities) to establish and commit to a Compensation Protocol which will address social impact as well as natural heritage impacts on lands owned by LSRCA.	Please see response to comment #2
44	BRCE Comment – Trails, Fencing	PARKS, TRAILS, CROSSINGS AND INSTITUTIONAL LANDS The report provides that the rail corridor will be appropriately fenced to limit access. Any deficiencies regarding trail crossings etc. will be addressed during detailed design. Please consult with LSRCA to discuss impact to LSRCA properties.	Please refer to response to comment #32
45	BRCE Comment	Net Effects - Construction: Reference is made here and in other sections of the report to the tree compensation protocol and directs the reader to the Tree Inventory and Arborist Report provided in Appendix B of the BRCE EPR. It is our understanding that this protocol is still under development with the affected municipalities and conservation authorities to provide consistency throughout the project area. LSRCA requires Metrolinx to continue consultation with the working group (including Municipalities and Conservation Authorities) to establish and commit to a Compensation Protocol which will address social impact as well as natural heritage impacts on lands owned by LSRCA.	Please refer to response to comment #32
46	BRCE Comment BRADFORD LAYOVER FACILITY	The Technical Review for this facility from a Stormwater Management perspective has been carried out by LSRCA Staff and sign off provided February 2017.	Please refer to response to comment #32
47	BRCE Comment	Please include the Conservation Area boundaries as contained in the Socio- Economic and Land Use Report and Appendix A-2, Drawing NER-02, Fish and Wildlife Habitat on these drawings. Note LSRCA’s Queen Street property is not included on Sheet 68.	Please refer to response to comment #32
48	BRCE Comment	The following Conservation Area Boundaries are incorrect or are missing from the drawing; *Sheet 68 and 69, The LSRCA Mabel Davis CA boundary is incorrect. Refer to maps in the Socio-Economic and Land Use Report. *Note LSRCA’s Queen Street property is not included on Sheet 68. *Sheets 74-76, Portions of the LSRCA Rogers Reservoir CA boundary is missing. Refer to maps in the Socio- Economic and Land Use Report.	Please refer to response to comment #32
49	BRCE Comment General Comment	The report indicates that site investigations were carried out in 2015. To our knowledge the LSRCA Conservation Lands Division was not contacted regarding permission to enter LSRCA’s properties. Standard practice is for the proponent to obtain permission to enter LSRCA properties to collect site information and/or monitor the site. The LSRCA requires specific insurance and indemnification prior	Please refer to response to comment #32

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		to consultants entering on to LSRCA properties. Metrolinx should obtain a Use of Property Hold Harmless Agreement with the LSRCA for all future site investigations and monitoring.	
50	BRCE Comment	The report provides observations of trees immediately adjacent to the rail corridor greater than 10 DBH. Why weren't trees of smaller caliper considered for the purposes of identifying project impacts? These smaller trees should be included to help characterize the existing site conditions.	Please refer to response to comment #32
51	BRCE Comment	The drawings do not identify the boundaries of LSRCA properties and reference to tree groupings noted on the drawings span multiple properties. This makes it very difficult to determine specific impacts to LSRCA properties. Based on the tree group notations on Sheets 33, 34, 35, 36, 37, 38, 45 and 51 and summaries in Appendix C the loss of trees on or near LSRCA properties has been assessed. However, the impacts to LSRCA properties within the Bailey Ecological Park, Wesley Brooks (Fairy Lake), Mabel Davis CA, Rogers Reservoir CA, Scanlon Creek CA and the Luck property are difficult to determine from the Tree Group # and corresponding chainage. Based on the photomosaic maps it would appear that additional trees may require removal. LSRCA staff field checked a small area of the Scanlon Creek Conservation Authority along the west side of the corridor south of the 10th. Assuming an acquisition area of approximately a 3-5 metre off the existing property boundary LSRCA staff identified a considerable number of trees that would be removed if the ROW is cleared as stated in the report. There are hundreds of trees within 5 m of the existing rail corridor. These areas need to be field checked with LSRCA's ecologist, forestry and lands staff to assess type, size, health, and proposed compensation.	Please refer to response to comment #32
52	BRCE Comment – Natural Science	Detailed tree removal, restoration, and compensation plans will be prepared during detailed design in coordination with a Certified Arborist and/or Landscape Architect to assist with species selection, planting locations and measures to ensure establishment success. This is to be field checked with LSRCA ecologist, forestry and lands staff.	Please refer to response to comment #32
53	BRCE Comment General Comment	Metrolinx is currently consulting with conservation authorities and municipalities to establish a compensation protocol for Metrolinx projects. It will address items such as tree and vegetation removal from within the ROW, from within woodlots, wetlands as well as trees immediately adjacent to Metrolinx- owned properties; compensation protocol; and tree limb pruning protocols for construction. This requirement should also include the cost to acquire land for offset natural heritage restoration projects. LSRCA requires Metrolinx to continue consultation with the working group (including Municipalities and Conservation Authorities) to establish and commit to a Compensation Protocol which will address social impact as well as natural heritage impacts on lands owned by LSRCA.	Please see response to comment #2
54	BRCE Comment – Natural Science	When revegetating in the ROW within proximity of a natural area, only native seed mixes should be used. Please revise all references in the document where stated.	Please refer to response to comment #2
55	BRCE Comment – Natural Science	It is agreed an appropriate offsetting protocol should be created with the public agencies including the continued discussion with Conservation Authorities however to date a committee or review with public agencies has not occurred related to features. The offsetting strategy needs to be determined and implemented in a timely manner.	Please see response to comment #25
56	BRCE Comment	The migratory nesting window in the LSRCA watershed is generally April 1 - August 31 as per the guidelines set by Environment Canada, please revise all references in the document where stated.	Please refer to response to comment #32 with respect to BRCE This timeframe is already reflected throughout the Electrification Draft EPR.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
57	BRCE Comment	Site Investigations - The report indicates that site investigations were carried out from the existing ROW. For detailed design we would expect that Metrolinx and their consultants will need to field verify their analysis to determine the full impact and mitigation requirements of the project. Metrolinx should obtain a Use of Property Hold Harmless Agreement with the LSRCA for all future site investigations and monitoring.	Please refer to response to comment #32 with respect to BRCE As noted in the Electrification Draft EPR, further more detailed field investigations related to tree inventories, SAR species, etc. will be undertaken as required by the Contractor during detailed design. We request that LSRCA provide a copy of the Use of Property Hold Harmless Agreement.
58	BRCE Comment	35 cultural communities were identified however the ecosites should be provided in order to identify rare community habitats such as grasslands, prairies, alvars etc... in order to determine appropriate offsetting. Please note that identification to community series would not adequately identify these features.	Please refer to response to comment #32
59	BRCE Comment	A table of the minor watercourse crossings should also be included in the report on Page 29 and demonstrate where crossing improvements are required. In addition it is unclear what is meant by crossing improvements, will this include full replacement and resizing where undersized. Further information of opportunities for improvement should be detailed in both the minor and major watercourse crossings tables.	Please refer to response to comment #32
60	BRCE Comment – Natural Science	The significant woodland criteria from the technical guidelines in the Greenbelt and the LSPP include the least constraint criteria. Using the same approach as the SWH and ESA habitat conditions (assuming habitat) the great constraint criteria should be used unless otherwise determined through site evaluations at detailed design. Once completed, Table 5.2 should be updated.	Please refer to response to comment #32
61	BRCE Comment – Natural Science	The report should use the technical definitions of the Greenbelt Plan and the LSPP in order to determine Significant Valleylands. Then this area can be compared the area currently identified by the MNRF	The GO Rail Network Electrification TPAP Natural Environmental study relied on significant valleylands data obtained from municipalities. Metrolinx requests that LSRCA provide the updated
		guidelines. Please note the LSRCA will have an updated layer by the end of Feb 2017 that can support this assessment.	Valleyland Mapping when finalized. Depending on timing of receiving this new information as it relates to the TPAP schedule, it will be reviewed/considered as part of the Electrification TPAP or the subsequent detailed design phase as appropriate.
62	BRCE Comment – Natural Science 39	The environmental report should demonstrate that sufficient identification of tall grass prairies, alvars, sand barrens, and savannahs were completed or detailed field studies completed using LIO information for baseline data.	Please refer to response to comment #32 with respect to BRCE LIO information was used and incorporated as part of preparing the Electrification Natural Environmental Baseline Conditions Report contained in Appendix A1 as well as EPR Volume 2.
63	BRCE Comment – Natural Science 39	The LSRCA has identified natural areas abutting Lake Simcoe and can provide more up to date information as requested as large areas through the Holland Marsh are impacted and in Innisfil.	Please refer to response to comment #32 with respect to BRCE The additional information can be incorporated into the Electrification Draft EPR as appropriate, if LSRCA provides it.
64	BRCE Comment – Natural Science 48	It is unclear what information or studies were completed to determine if deer migration or wintering areas were present. Please provide further information. It appears based upon mapping by MNRF, a large deer wintering area exists along the rail line between Mile 44.00 to 49.05.	Please refer to response to comment #32 with respect to BRCE Deer wintering areas will be added to the Draft EPR and Natural Environmental mapping as applicable for the Electrification project.
65	BRCE Comment	Table 5-8 & Table 5-10 demonstrates a number of significant wildlife habitats and endangered species habitat observed in each municipality relative to its size (area) and available natural cover. Additionally, the total area impacts are reviewed as at a Regional scale, but must also review the loss at a local scale to determine if there are associated impacts.	Please refer to response to comment #32

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
66	BRCE Comment	Table 5-11 identifies the corridor linkages that will require additional opportunities to function appropriately, please confirm the remainder of the major crossings were considered for deer or coyote species which are often known to use areas in these municipalities and at the proposed crossing design not existing since openness ratios will be adjusted with size.	Please refer to response to comment #32
67	BRCE Comment	Table 6-1 may require readjustment based upon reassessment of significant woodlands, valleylands and natural areas abutting Lake Simcoe in the LSRCA jurisdiction.	Please refer to response to comment #32
68	BRCE Comment – Natural Science	What additional fencing considerations will be created for the two wintering deer yards in order to maintain connectivity for deer passage and those identified as a result of these comments.	Please refer to response to comment #32
69	BRCE Comment – Natural Science	Where clear cutting of woodland edges occurs, edge management should be considered including planting trees and shrubs in the interstices to mitigate further impact to the exposed edges from the elements and to slow the colonization of non-native and invasive species.	Please see response to comment #2
70	BRCE Comment	Please include a note in this section stating once the construction areas are stabilized all sediment and erosion controls will be removed. Where design notes similar to this are identified in the NER please revise as necessary.	Please refer to response to comment #32
71	BRCE Comment	Table 6-4 will need to be revised to incorporate updated loss of significant woodland habitat.	Please refer to response to comment #32
72	BRCE Comment	Table 6-5 will require revision to address any additional losses	Please refer to response to comment #32
73	BRCE Comment – Natural Science General Comment	CUW are considered woodlands based upon all provincial and regional and municipal technical guides and within Aurora and Newmarket, all cultural woodlands, woodlands and cultural plantations are considered Significant Woodlands due to the low percentage of woodland cover in these local municipalities. Please revise all associated tables discussing woodland loss.	Please refer to response to comment #32 with respect to BRCE For the Electrification Draft EPR and Natural Environmental Impact Assessment Report (Appendix A2), Cultural Woodlands were considered in the category of woodlands. No changes to the EPR required.

Table 1-52: Toronto and Region Conservation Authority Draft EPR Comments and Responses

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TORONTO AND REGION CONSERVATION AUTHORITY				
1	Cover Letter	Coordination With Other Environmental Assessments	Please note that integration in the planning and design process between both the proposed Flood Protection Class EA, anticipated to commence this summer in the area of the BMW site on the east side of the Don River, north of the railway tracks and the Approved Don Mouth Naturalization and Port lands Flood Protection Project EA (DMNP EA, 2015) is required. Please contact Ken Dion, Senior Manager, Special Projects at 416-661-6600, extension 5230 for further discussion.	Comment noted. As the design phase progresses, relevant stakeholders will continue to be consulted as appropriate with respect to the final design of the Don Yard Paralleling Station.
2	Cover Letter	TRCA Living City Document	TRCA as an organization is very supportive of transit development and encourages agencies and municipalities to develop sustainable transportation options in their planning and development of sustainable communities. The TRCA Living City Policies (LCP Section 6.4, 6.5, 6.7 and 6.8) promotes and advocates the incorporation of sustainable transportation policies, green infrastructure and ecological design into community development and infrastructure building.	Comment noted.
3	Cover Letter	Preferred Alternatives - Watersheds	Staff recommends that the preferred alternatives meets the policies of section 7, in particular section 7.4.4, of The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority.	Noted. Further discussions and coordination with TRCA will be undertaken as appropriate during detail design with respect to Living City Policies. Environmental Project Report (EPR) Volume 5 will be revised to reflect this commitment.
4	Cover Letter	Preferred Alternatives - Watersheds	Furthermore, staff recommends that the preferred alternative allows the detailed design to meet the policies of section 8, including section 8.9, of The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority	See response to comment #3.
5	Cover Letter	Preferred Alternatives – Living City Policies	<p>In consideration of TRCA’s Living City Policies, Ontario Regulation 166/06, as well as the TRCA Voluntary Project Review process and TRCA’s other programs and policies, staff advises that the preferred alternatives meet the following criteria:</p> <ol style="list-style-type: none">1. Prevents the risk associated with flooding, erosion or slope instability.2. Protects and rehabilitates existing landforms, features and functions.3. Provides for aquatic, terrestrial and human access.4. Minimizes water/energy consumption and pollution.5. Addresses TRCA property and heritage resource concerns.	<p>See response to comment #3.</p> <p>Preliminary Storm Water Management (SWM) Assessment was undertaken as part of the Transit Project Assessment Process (TPAP) and summarized in Volume 3 and Appendix K. This assessment is an initial assessment based on the conceptual Traction Power Facility plans developed for the TPAP. As stated in the EPR and Preliminary SWM Assessment Report (Appendix K), further detailed SWM analyses and study will be completed during detailed design.</p> <p>In general, Volume 3 of the EPR describes the potential environmental effects, recommended mitigation measures, net environmental effects, and monitoring activities associated with implementation of the project. This Volume covers the disciplines described in the TRCA comment. Volume 5 describes the proposed commitments and future work to be carried out during future project phases (e.g., detailed design, construction), and outlines the additional anticipated approvals and permits required for implementing the project beyond EA Act requirements.</p>

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
6	Cover Letter	Natural Science – Mitigation and Compensation	Please note that although TRCA policies support transit development and understands that there may be a need for transit infrastructure to cross regulated areas or to site transit infrastructure within natural hazard lands, where unavoidable, intrusions into natural features, areas and systems contributing to the conservation of land and areas providing ecological functions and hydrologic functions contributing to the conservation of land are minimized and appropriate remedial works of sufficient scale and scope to restore and enhance features and functions, or to compensate for impacts, will be implemented in accordance with TRCA standards and the future agreed upon compensation protocol.	<p>This item is noted. Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal Lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p> <p>As a Crown Agency, Metrolinx is exempt from the Conservation Authorities Act and as such does not have a requirement to follow TRCA standards. Notwithstanding this, wherever possible, Metrolinx will engage TRCA on specific projects (or components thereof) and will adhere to requirements when and where possible and feasible on aspects such as:</p> <ul style="list-style-type: none">• Tree protection and removal/injury in accordance with TRCA requirements;• Sewer discharge in accordance with TRCA requirements;• TRCA requirements for work within a regulated area
7	Cover Letter	Sustainable Energy Technologies	TRCA advocates that proponents consider the use of appropriate sustainable energy technologies and practices in their projects. The Living City Policies supports the use of sustainable or “green buildings” to reduce the impacts of buildings on the environment. Site selection, choice of building materials and resources, construction and maintenance methods, among others, are all issues to be addressed in greening a building project. Rather than producing excess waste and harmful emissions, green buildings contribute to a healthy environment; they cost less to operate, are more durable and adaptable in the long term, and are a benefit to the community both aesthetically and environmentally. These advocacy policies are discussed further in Appendix A.	<p>Acknowledged. Integrating sustainability into how we plan, build, and operate is part of Metrolinx’s mandate. Metrolinx has developed a Sustainability Strategy where we aim to:</p> <ul style="list-style-type: none">• Integrate – Consider the environmental, social and economic outcomes of our decisions;• Connect – Engage our broader stakeholders in our decisions and actions;• Improve – Use continuous improvement as our boundless guidepost. <p>The Metrolinx sustainability Strategy can be viewed here: http://www.metrolinx.com/en/docs/pdf/board_agenda/20160909/20160909_BoardMtg_Sustainability_Strategy_Report_EN.pdf</p>

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
8	Cover Letter	Community Benefits & Ecosystem Resilience	TRCA also understands that through the Metrolinx Sustainability Strategy, Metrolinx is committed to providing both Community Benefits and Ecosystem resilience. TRCA is committed to working with Metrolinx through the individual project phases to ensure opportunities are brought forward for consideration and discussion at the appropriate time.	<p>Acknowledged. Goal 4 and 5 of the Metrolinx Sustainability Strategy specifically seeks to minimize impacts on ecosystems; and enhancing community responsibility for Metrolinx projects.</p> <p>We are committed to consider the impact of infrastructure and services on ecosystems and ecosystem services, and will seek to make best efforts to manage, preserve or protect them including considering enhancing the health of ecosystems.</p> <p>We will continue to look for opportunities to work with groups such as the TRCA in achieving our sustainability goals.</p>
9	Cover Letter	Voluntary Project Review	<p>Looking ahead to the design stage, please note development activities within regulated areas for or on behalf of the Government of Ontario (a provincial) or federal agency are exempt from the regulatory approval process under Section 28 of the Conservation Authorities Act. In the absence of the formal permitting process Metrolinx has chosen to engage TRCA at detailed design through Voluntary Project Review. Through this process TRCA will complete a comprehensive review and provide an opinion as to whether the interests, objectives, and tests of TRCA’s permit requirements under Section 28 of the Conservation Authorities Act and under Ontario Regulation 166/06 – Toronto and Region Conservation Authority (TRCA): Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses will be satisfied. This includes a review as to whether or not there will be impacts to flooding, erosion, pollution and conservation of land.</p> <p>Through comments in Appendix A, staff request confirmation of Hydro One’s intended process with TRCA at detailed design.</p>	<p>Acknowledged. TRCA’s Voluntary Project Review will be noted in Volume 5 of the EPR. The Contractor will be required to follow all applicable legislation as part of the detailed design process.</p> <p>Metrolinx and Hydro One are co-proponents and efforts during detailed design will be concerted.</p>
10	Cover Letter	Comprehensive Tree Compensation Guideline	Staff understands that the Comprehensive Tree Compensation Guidelines are under review at this time. TRCA looks forward to working with Metrolinx to develop methods of implementation of the Guidelines through the Voluntary Project Review process for projects within the scope of this EA. TRCA would be happy to discuss how best to apply them to this large scale project.	<p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal Lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
11	Cover Letter	Trail Infrastructure	Staff understands that Metrolinx will also address relevant municipal natural heritage policies and tree removal requirements directly with the appropriate agencies. Please note that staff also encourage every effort be made to ensure trail infrastructure is maintained and where possible be enhanced and connected through the planning, design and implementation stages of this project.	Comment noted. With regard to setbacks, restrictions and barrier protection structures required in conditions of trails abutting electrified rail corridors: <ul style="list-style-type: none">• Minimum 5 meters from the centerline of the track for a non-climbable wall; 8m minimum for a climbable (tiered) wall.• Section 3.10 of EPR Vol 1 will be updated to include information related to locations where horizontal barriers will be required along the corridors.
12	Cover Letter	Property Acquisition Requirements	Please note that if it is determined that TRCA property is required, permission and approval from TRCA and the Minister of Natural Resources are required. The design must demonstrate that TRCA program and policy objectives are met. Formal approval can take 12 to 18 months and an archaeological investigation by TRCA’s archaeological staff must precede any disturbance to TRCA property.	Comment noted. The Contractor will be required to follow all applicable legislation as part of the detailed design process. In addition, the TRCA will be engaged in the detailed design phase as required to identify relevant permitting requirements that may apply to the project. Currently, there are no TRCA lands that have been identified for acquisition as part of the electrification undertaking. Should this change during detailed design, the Contractor will follow the procedures required by TRCA to seek formal approval. A note to this effect will be added to EPR Volume 5. TRCA’s archaeological staff will be engaged as required prior to disturbance.
13	Cover Letter	Submission Requirements	In order to facilitate the review of the next submission please provide the following: One copy of the cover letter with Central File Number (CFN) 54716 quoted, and description of the material submitted and how the comments above have been addressed; One hard copy of any revised sections of the final document as agreed to by TRCA and Metrolinx and a digital copy of all submitted material.	The next phase of review as part of the TPAP will entail the regulated 30 day public review timeframe for stakeholders to review the Final EPR and provide any outstanding comments which will occur following issuance of the Notice of Completion. The report will be made available electronically and at public viewing locations that will be publicized upon issuing the TPAP Notice of Completion. Requests for hard copies will be reviewed on a case-by-case basis.
14	1	Voluntary Project Review – Hydro One	Please confirm if Hydro One will plans to engage TRCA at detailed design through Voluntary Project Review applications for works associated with the GO Rail Network Electrification. Please note that applications for utilities subject to our permitting process should be coordinated with TRCA to allow for sufficient time for review.	With respect to Hydro One’s process and involvement in the detailed design stage, see response to comment #9. Applications for utilities subject to TRCA’s permitting process will be coordinated with TRCA during detailed design. With respect to allowing ‘sufficient time for review’ as noted in TRCA’s comment, Metrolinx requests that TRCA define specifically what <i>sufficient time</i> means so that this can be considered in the context of the detailed design schedule as applicable.
15	2	Don Yards PS – Flood Protection Volume 1 Page 109 - Figure 3-53	The proposed Don yard Paralleling station is being depicted along the north side of the tracks on the east side of the Don River. We are anticipating the need to develop a flood protection solution through the Class EA process that will tie into the Railway embankment in this area to prevent flooding from propagating east from the River. While the proposed Paralleling Station in this location is not necessarily a mutually exclusive undertaking, Metrolinx should be aware of the need to integrate design process for the proposed Class EA and their paralleling station in this area so that both projects can be integrated in this very spatially constrained space. We anticipate having the Class EA completed by Summary 2019. We should also have advanced the concept plan sufficiently to integrate with Metrolinx's design process for this area so that both can be implemented.	Metrolinx acknowledges the need to integrate the detailed design process for the Don Yard PS with the proposed Class EA outcomes/design process for other planned infrastructure in the area. Section 1.4.10.1 of EPR Volume 5 addresses this.
16	3	Bridge Modifications – Don River Bridge	It is recommend that wording be reflective that any works requiring modifications to the bridge crossing, should not result in lower bridge soffit elevations given the need to establish flood conveyance through this area as part of the DMNP EA, and the previously	As outlined in Table 3-8 in Draft EPR Volume 1, the proposed modifications to the Don River Bridge include “attachment of OCS wires/portal structures to the bridge”. Modifications to the bridge are not expected to lower the bridge soffit.

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Volume 1 Page 181 - Impacts Table Don River Bridge	approved and implemented Lower Don River West Remedial Flood Protection Project Class EA (2005).	
17	4	Don Yard PS Siting – Flood Plain, Utilities Volume 2 Page civ - Don Yard PS	<p>Don Yard PS - The report mentioned that the flood protection of the DMNP EA is in this area. It also correctly mentioned that flooding remains in the Don Yard PS area as the DMNP EA, upon full implementation, does not completely remove the risk of flooding in this area. The report also correctly mentioned that the Broadview underpass may occur in this area (Draft - Port Lands and South of Eastern Master Plan). It should mention that a Municipal Class EA (Eastern and Broadview Avenue Flood Protection Class EA) is anticipated to commence in 2017. The intent is to eliminate the residual flood plain area on the north side of the railway embankment, that was not addressed by the DMNP EA. The Class EA will likely require the installation of a landform of some dimension running parallel to the Don River, and require a tie-off to the north side of the railway embankment, in the proximity of the proposed Don Yard PS. While the project planning has not formally commenced, some identification of this work to come should be made to ensure that efforts during design of the Don Yard PS will incorporate, what will likely be an approved Flood Protection Structure at that time.</p> <p>This section also only mentions HONI transmission lines in this area. The area includes a network of Enbridge Gas trunks running along Eastern Avenue and Sunlight Avenue, and oil lines that run perpendicular to the tracks, parallel along the DVP. There is also major Combined Sewer Overflow works proposed for a CSO along Eastern Avenue in the area. While they may not necessarily impact the electrification system, to simply state that HONI is the only infrastructure nearby is not accurately depicting the amount of utilities in the area.</p>	<p>See response to comment #15.</p> <p>In addition, please note that details relating to existing utilities in the study area and potential utility conflicts are detailed throughout the Utilities sections of EPR Volume 3 as well as in the Utilities Report (Appendix I).</p>
18	5	USRC/LSE – Don River Dredging Volume 2 Page civ and cv - Natural environment	It should be noted that the DMNP EA calls for permanent dredging operations of the Don River in close proximity of the Metrolinx crossing of the Don River. The final form of dredging technology has not been selected. It may be a low-lying hydraulic dredge system on a propelled barge. It may be a back-hoe on a punt. We may look at also incorporating sand collectors fixed to the bed of the river combined with manual dredges. It would be beneficial to have the TPAP identify that the proposed electrification of the lines along the bridge above will not impose restrictions on the future dredging activities required in the river immediately downstream from the crossing.	In order to ensure the dredging equipment does not come into contact with the bridge, the dredging activities will need to be restricted to a minimum setback distance of 10m from the bridge/OCS wires.
19	6	Don Yard PS – Contamination Site Investigations Volume 2 - Page 416	Recommends conducting a Phase I site investigation as well as other subsurface investigations for the proposed Don Yard PS location. TRCA is proposing a similar investigation to commence this year in support of the proposed flood protection Class EA in this area. Perhaps cost sharing arrangements could be possible to avoid duplicate efforts in this particular area.	The recommended Phase I and subsurface investigation for the proposed Don yard PS located on Metrolinx property is pending further detailed design once the TPAP has been approved. Discussion of the exact timing of the work or adding TRCA scope outside the Don Yard PS/ opportunities for cost sharing agreement cannot be confirmed at this time.
20	7	Don Yard PS – Land Use, Parks, Flood Protection	Document says there are no planned parks in the area of the Don Yard PS. We are planning to initiate a flood protection Class EA that will likely look to tie-in a flood protection structure on the north side of the railway embankment in the area of the Don Yard PS. This Class EA is anticipated to take 18-24 months. It will be important that Metrolinx integrate their design with the resulting flood protection structure that will likely come through the	This item has been noted within the text of the Land Use and Socio-Economic Report (Appendix E). It is advised that TRCA keep Metrolinx apprised of any resulting flood protection structure and/or green space to be established in the area. Also, see response to Comment #15.

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		Volume 2 - Page 437 - Land use	planning process. This may result in some green space being established in the area as well, and will eliminate the remaining flood vulnerable area north of the tracks.	
21	8	Don Yards PS - Utilities Volume 2 - Page 483 - Utilities	There is extensive records of Gas mains along Eastern and Sunlight Ave, oil mains along the DVP under the railway bridge, CSO along Eastern, sanitary along Eastern, plus a spaghetti of telecommunications, watermains and local sewers along sunlight and eastern. While not exactly at the Don Yard PS, they are all located nearby. It is not clear what threshold is being used to consider "nearby".	Information was gathered on all utilities within 9 m from the TPAP Study Area (i.e., within 9m from TPF sites and 9 m from the centreline of the closest outside track) as part of the utilities assessment work completed as part of the TPAP. The infrastructure mentioned has either been captured as part of the Don Yard PS or the Lakeshore East (Section LSE-1) utilities assessment depending on how far they are from the TPF site or the corridor within EPR Volume 2/Utilities Assessment Report (Appendix I).
22	9	Don Yard PS, Municipal Commitments Volume 5 - Page 66 - City of Toronto Commitments	Metrolinx commits to work with CoT regarding the design of the Don Yard PS. While this is likely in reference to the proposed Broadview underpass in the area, reference to the Municipal Class EA that is anticipated to commence in the area of the Don Yard PS as well - which is a co-proponency between the City, TRCA and WT. As mentioned previously, a flood protection structure is anticipated to require a tie-in to the north side of the railway embankment in the area of the PS.	This section will be updated to make note of the described anticipated co-proponency between the City of Toronto, TRCA and Waterfront Toronto. Noted.
23	10	Don Yards PS – Proximity to DVP Widening Appendix S 6 - Figure LSE-1 - Don Yard PS	The pink box is very close to the DVP and Don River. The Gardiner EA is looking to widen the opening of the DVP under the railway embankment. The tie-off point for the future class EA is also likely in this area. Close consideration during design is required to integrate the PS with the proposed Flood protection in this area.	Acknowledged. See response for comment #15.
24	11	Evaluation Criteria EPR, Table 3-1, TPF Sites Evaluation Criteria and Descriptions	Staff note that the Natural Environment is listed under evaluation criteria. It is important to consider more than those features with Provincial significance. In addition, please note that Natural Hazards (flood and erosion....) should be considered in the evaluation. Please see TRCA The Living City Policies for further information and background to support future planning and detail design submissions through the Voluntary Project Review process.	While the Natural Environment evaluation placed emphasis on features of provincial significance, additional criteria was considered where warranted. Issues with regards to Natural Hazards such as flooding and erosion have been addressed/considered in the Stormwater Management Assessment throughout EPR Volume 3 in Appendix K.
25	12	OCS Grounding & Bonding EPR	Please confirm the footprint of the grounding and bonding system at OCS support structures. It is understood that this system will be installed to a depth of 1m. To assess the potential impact of the OCS system in sensitive areas, the overall disturbed area will need to be defined	The bonding and grounding will be incorporated into the foundations of the OCS structures. The overall disturbed area has been defined as 5 meters from the outside track. Please see Section 3.6.3 of EPR Volume 1.
26	13	Natural Science – Bridge Modifications	Please confirm that potential bridge modifications will not require additional infrastructure within valleys and watercourses such as piers or access roads.	Confirmed, there are no adverse environmental effects on watercourses anticipated as part of the electrification undertaking and no additional infrastructure is planned to be placed within valleys and watercourses.
27	14	Noise Barriers	Please confirm if any noise walls will be implemented as part of the Electrification project. It is understood that these are generally included in projects involving the addition of new tracks or increasing service.	Noise and vibration has been assessed as part of the GO Rail Network Electrification TPAP. The noise and vibration modelling results were included as Appendix G of the draft EPR and mapping of noise/vibration receptors and recommended locations for noise/vibration mitigation were included as Appendix S. As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment the noise and vibration impact assessments conducted as part of the Electrification TPAP assessed noise impacts from the future GO Transit rail traffic expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels for both the diesel Rapid Express Rail (RER) service and the electric RER service. The pre-project noise levels were taken to be the existing noise levels, associated with present-day rail traffic on the corridor.

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
				<p>Mitigation of the sound levels was investigated and evaluated for technical feasibility where the project is expected to cause a 5 dB increase or greater in the average noise (referred to as “Leq”) relative to the existing noise level or the MOECC objectives of 55 dBA for daytime and 50 dBA for night-time. Technical feasibility refers to a 5 metre high noise wall that can reduce noise by at least 5 dB.</p> <p>The noise & vibration modelling reports will be further reviewed and assessed as part of detailed design. This further analysis will consider the administrative, operation, and economic feasibility of the recommended mitigation locations. As part of this process, Metrolinx will consult with municipalities and local residents to provide updates on decisions made and implementation of any proposed noise mitigation measures.</p>
28	15	Natural Science – ESA Habitat Natural Environment Baseline Conditions Report, Appendix 2	Figure 24 - Unionville TP – A watercourse has been identified through previous planning studies in the area immediately north of Hwy 407. This watercourse has been identified as direct fish habitat and redbreasted sunfish contributing habitat. Please identify this watercourse in the report. TRCA would be happy to confirm its location.	This watercourse is not within the hydrographic network data that we have available through LIO. We also checked TRCA Regulated Areas mapping to confirm location of the watercourse but it is not shown on the online mapping. If TRCA can provide the location of the watercourse (and how it falls within TRCA regulated areas), this information will be incorporated it into the EPR accordingly.
29	16	Natural Science – Natural Features & Hazards	There are several locations where natural features and hazards are within the existing right of way. While it is understood that efforts will be made at detailed design to reduce impacts to the extent possible, there will be areas where extremely sensitive features will need to be managed. For example, there are many locations where the embankment-side ditch has a flowing watercourse or wetland within it. This represents a design challenge as soils may not be ideal for construction of the OCS system or flowing water could cause erosion of the OCS footings, grounding system or embankment. Sinking a footing into a flowing stream could undermine the adjacent tracks. Detailed designs will need to manage the watercourse appropriately. At this stage, the potential for this issue should be recognized with potential areas of concern identified. Woodland and swamp ELC areas should be examined throughout the study area for this occurrence. Examples include: Stouffville Line – Stouffville Reservoir north of Millard St, Barrie Line – North of Dufferin St, Lakeshore East Line – Galloway Rd	<p>The addition of the electrification infrastructure along existing rail corridors will not adversely affect flooding or flood risk. A note will be added to EPR Volume 3 to make this clearer.</p> <p>The existence of the embankment-side ditch is noted. There are no plans to place OCS footings or the grounding system into these areas.</p>
30	17	Storm Water Management	Sites proposed within TRCA jurisdiction must be in alignment with the TRCA Stormwater Management criteria document. It should be noted that the authority requires (in some instances) control of flows to predevelopment levels based on unit flow rate equations (i.e., Bramalea PS). Please include the TRCA criteria document within the design criteria section of the DEPR and describe the expected level of quantity control for sites within the Authority’s jurisdiction. Please refer to the criteria document which is available at www.sustainabletechnologies.ca	The expected level of quantity control for sites within TRCA’s jurisdiction will be outlined at detailed design stage in accordance with the applicable TRCA Stormwater Management criteria.
31	18	Storm Water Management	Flow contributions from proposed sites and external areas to existing ditches/culverts along with potential flooding impacts on adjacent lands must be evaluated. Flow targets, proposed mitigation measures with supporting design details and calculations should be provided at subsequent design stages. No increases in flows or water levels are expected on upstream/downstream properties as a result of the proposed works.	External area contributions and flooding impacts, flow targets, proposed mitigation measures with supporting design details and calculations will be provided at the detailed design stage for sites within the TRCA’s jurisdiction.
32	19	Floodplain - Cut and Fill Analysis	Typically, the TRCA doesn’t support placement of fill within the floodplain to facilitate development. However, in cases where it is needed it must be kept to an absolute minimum. A cut and fill analysis according to TRCA’s standards should be performed and	Acknowledged. Where required, a cut and fill analysis according to TRCA’s standards will be performed at detailed design stage and provided to TRCA for review.

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			provided to TRCA staff for review, where required. It must be demonstrated through the analysis that the volume of fill is balanced by the volume of the corresponding cut at the same incremental stage.	
33	20	Erosion Prevention and Sediment Control	Erosion prevention and sediment control (ESC) measures shall be implemented to mitigate erosion and sediment processes during construction. At detailed design, please provide a comprehensive ESC plans indicating how runoff from the different sites will be managed. Details, locations and supporting calculations for each ESC measure should be included in the plans. The ESC plans should be consistent with the Erosion and Sediment Control Guideline for Urban Construction, December 2006.	ESC assessment will be undertaken during detailed design stage including details, locations and supporting calculations in accordance with the Erosion and Sediment Control Guideline for Urban Construction, December 2006.
34	21	Voluntary Project Review - Geotechnical Information	<p>The available geotechnical information at this stage is preliminary and the detailed design stage has not been commenced. The following presents the review summary at this stage: Detailed Design/Voluntary Project Review.</p> <ul style="list-style-type: none">a) The geotechnical study is required in support of the various elements of the proposed undertaking;b) The facilities, equipment and other developments in proximity to the valley walls and slopes as a result of this work require detailed slope stability and erosion hazard assessments to ensure that it is not vulnerable to slope instability or erosion hazard or exacerbate the slope stability issues. The minimum safety factor of 1.50 should be met for the detailed slope stability;c) The grading in proximity of the slopes and banks should be limited to its maximum extent possible to minimize the potential negative effects to the slope stability. The proposed grading should be supported by geotechnical study and slope stability analysis to ensure that it does not destabilize the slope or potentially triggers hazards;d) The new structures and facilities such as the abutments, wing walls, retaining walls/structures, piers, etc. should be properly designed using geotechnical information and recommendations. For the retaining walls/structures, abutments and wing walls, the global stability should be checked to ensure that a minimum safety factor of 1.50 is met so that these structures cannot be undermined by deep-seated sliding or rotational failure;e) The cuts and fills, which may be required for the proposed undertaking, require the geotechnical design. The stability assessment is also required in support of the cuts and fills to confirm the long-term stability with a minimum safety factor of 1.50;f) If the proposed undertaking requires the construction activities in proximity to the steep slopes and valley walls, the slope stability assessment is required considering the load and vibration effects to confirm that the construction does not exacerbate the slope stability issues;g) It is understood that some segments of the work are in proximity to the slopes including Don Yard and Don Yard Layover. Please ensure the erosion hazards are assessed in details so that there is no risk as a result of the proposed works;	These specific aspects will be addressed as part of detailed design. See response to Comment #9.

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>h) It is understood that some segments are in proximity to the Lake. Please ensure that the erosion hazards as a result of the proximity to the Lake are assessed in details so that there is no risk as a result of the proposed works;</p> <p>i) The cross-sections should be prepared in adequate intervals through the alignment to show the proposed works with respect to the existing grade. This will enable the TRCA to better understand different elements of the work and the grading and alterations as a result of the work;</p> <p>j) All engineering drawings should be prepared for different undertakings using the pertinent geotechnical recommendations and slope stability assessments and submitted as signed and sealed by Licensed Professional Engineer.</p>	
35	22	Green Infrastructure	<p>Green Infrastructure:</p> <p>The Living City Policies supports and promotes the use of green infrastructure in urban design to maximize ecosystem services, and mitigate the impacts of urbanization and the potential impacts of climate change through TRCA partnerships, programs, and operations. Green infrastructure can be implemented in many different ways on a site (gardens, green roofs, bioswales, etc) including incorporation of LIDs, enhancements to the urban canopy and protection/restoration/compensation of the natural heritage system, all of which should be considered as part of the site design.</p>	See response to comments #3 and #7
36	23	Sustainable Buildings	<p>Sustainable Buildings: The Living City Policies supports the use of sustainable or “green buildings” to reduce the impacts of buildings on the environment. Site selection, choice of building materials and resources, construction and maintenance methods, among others, are all issues to be addressed in greening a building project. Rather than producing excess waste and harmful emissions, green buildings contribute to a healthy environment; they cost less to operate, are more durable and adaptable in the long term, and are a benefit to the community both aesthetically and environmentally. Green buildings are also encouraged through the Ontario Building Code, which was amended to include a variety of measures to promote the use of green technologies such as solar panels, green roofs and grey-water systems. TRCA advocates that proponents consider the use of appropriate green building technologies and practices in their projects.</p>	See response to comment #7.
37	24	Sustainable Energy	<p>Sustainable Energy:</p> <p>The Living City Policies support the use of sustainable energy, as the type and amount of energy used is one of the most significant factors affecting climate change, the ecological footprint of our communities, and ultimately our ability to create sustainable communities. TRCA advocates that proponents consider the use of appropriate sustainable energy technologies and practices in their projects. Staff recommend the proponent consider a range of fuel and energy sources (biomass, wind and solar) be used now and in future sustainability and climate mitigation scenarios. It is also recommended that sustainable building design be sought for all relevant project components, including mechanisms for water conservation, energy conservation, waste management and indoor environmental quality. Examples include:</p> <ul style="list-style-type: none">Community Energy Planning: Ensure the design and operation supports/complements the community energy planning or strategy for the surrounding neighbourhood;	<p>Acknowledged. As mentioned in response to Comment #7, Metrolinx has developed a Sustainability Strategy. The strategy focuses on five priority sustainability goals. Goal 2 of the strategy specifically aims to reduce energy use and emissions in how we plan, build, and operate. We will adopt processes, programs, and technologies that allow us to effectively track, monitor, and reduce our energy consumption, and carbon and air emissions.</p> <p>For further details on how Metrolinx intends to reduce energy use and emission (including GHGs) please refer to The Metrolinx Sustainability Strategy.</p>

Item No.	TRCA Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Eco-Efficiency: Ensure the facility equipment and operations can minimize energy and water use and GHG emissions;Solid Waste Management: Ensure that construction of the facility minimizes the generation of solid waste and that 80 or more percent of the solid waste generated is diverted from landfill;Stormwater: Ensure that the project minimizes runoff using LID's where appropriate and enhances the urban tree canopy;Social Benefits: Ensure that the project generates social benefits for the local communities.	

1.2.7.6 Indigenous Communities Review Agency Comments Received on Draft EPR

Tables **Table 1-53** to **Table 1-56** below contain each comment (verbatim) submitted by each Indigenous Community as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate).

Table 1-53: Huron-Wendat First Nation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx															
HURON-WENDAT FIRST NATION																		
1	Framework Agreement	The Huron-Wendat Nation is currently negotiating a Framework Agreement with Metrolinx that encompasses Metrolinx’s multiple projects potentially impacting Huron-Wendat heritage on our ancestral lands in Ontario and the constitutional protection of Aboriginal rights on the Huron-Wendat Nation.	On May 3 rd , 2017, Metrolinx formally offered the Huron-Wendat Nation an engagement protocol that outlines Metrolinx’ action plan for informing and engaging the Huron-Wendat Nation in the environmental assessment process with respect to Metrolinx’ Regional Express Rail program, including Electrification.															
2	Archaeology, Heritage & Constitutional Rights	The Huron-Wendat Nation would like to reiterate that this project may impact our heritage and our constitutional rights, and to demonstrate the great potential for impacts, a map was provided to show the existence of Huron-Wendat archaeological sites in and around the project area.	<p>A Stage 1 Archaeological Assessment Study was completed for the entire GO Rail Network Electrification Study Area (along rail corridors, feeder routes and taps/traction power facility sites) to determine archaeological potential. Stage 1 Archaeological Assessments involve visual inspection only and do not include excavation or collection of archaeological resources. Following the Stage 1 work, Stage 2 Archaeological Assessments will be undertaken as part of the Transit Project Assessment Process (TPAP) where possible and where Permission to Enter (PTE) access is granted.</p> <p>The information provided by Huron-Wendat Nation was reviewed by the project Archaeologist and documented in the Draft Stage 1 Archaeological Assessment Report as follows (which was included as Appendix D in the Draft Environmental Project Report (EPR) package provided to Huron-Wendat):</p> <p>To determine if any known ancestral Huron-Wendat sites would be impacted by this project, the consultant archaeologist, Archaeological Services Inc. (ASI) undertook a systematic review of the Ontario Archaeological Sites Database (OASD) for any registered sites within 1km of the study corridor, any archaeological assessment reports conducted within 50 m of the Project limits, and a review of ASI's proprietary sites database and records. This review appears in the Archaeological Context section for each of the study corridors.</p> <p>One ancestral Huron-Wendat site in particular - the Allandale site-- was identified as adjacent to the Barrie Corridor and ASI has specifically addressed this site in Section 3.4.1.2 of the Stage 1 AA Report (Appendix D) and in the recommendations for further Stage 2 assessment in the Barrie corridor west of Minet’s Point Road, close to where the site is located.</p> <p>The following table outlines the results of the Stage 1 AA study including recommendations for further study where applicable. Stage 2 AA reports will also be provided to Huron-Wendat once available.</p> <table><tr><th>Rail Corridor</th><th>Project Component</th><th>Archaeological Potential</th><th>Recommendation of Stage 1’s</th><th>Next Steps</th></tr><tr><td>Union Station Rail Corridor</td><td>Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover</td><td>Yes (Possible Deeply Buried Wharf/Cribbing)</td><td>No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative</td><td>N/A</td></tr><tr><td>Lakeshore West</td><td>Burlington TPS and Tap Location</td><td>Yes (partial area)</td><td>Stage 2 Test Pit Survey to be completed during</td><td>Stage 2 Assessment to be completed as part of TPAP, where</td></tr></table>	Rail Corridor	Project Component	Archaeological Potential	Recommendation of Stage 1’s	Next Steps	Union Station Rail Corridor	Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover	Yes (Possible Deeply Buried Wharf/Cribbing)	No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative	N/A	Lakeshore West	Burlington TPS and Tap Location	Yes (partial area)	Stage 2 Test Pit Survey to be completed during	Stage 2 Assessment to be completed as part of TPAP, where
Rail Corridor	Project Component	Archaeological Potential	Recommendation of Stage 1’s	Next Steps														
Union Station Rail Corridor	Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover	Yes (Possible Deeply Buried Wharf/Cribbing)	No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative	N/A														
Lakeshore West	Burlington TPS and Tap Location	Yes (partial area)	Stage 2 Test Pit Survey to be completed during	Stage 2 Assessment to be completed as part of TPAP, where														

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
						TPAP if PTE can be obtained	possible/Permission to Enter (PTE) access is granted
				Mimico SWS	No	No further assessment recommended.	N/A
				Mimico (Canpa) 25 kV Feeder Route	No	No further assessment recommended.	N/A
				Mimico TPS/Tap Location	Yes	Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Oakville SWS	No	No further assessment recommended.	N/A
				Rail Corridor/Vegetation Removal Zone	No	No further assessment recommended:	N/A
			Kitchener	Bramalea PS	Not Determined	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Bramalea 25 kV Feeder Route	No	No Further assessment recommended	N/A
				Rail Corridor/Vegetation Removal	No	No further assessment recommended	N/A
			Barrie	Allandale TPS	No	No further assessment recommended	N/A
				Allandale Tap Location	Yes	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Allandale 25 kV Feeder Route	No	No further assessment recommended:	N/A

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx			
			Newmarket SWS	Yes (partial area)	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
			Gilford PS	Yes	Stage 2 Pedestrian and Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
			Maple PS	Stage 2 Archaeological Assessment previously completed.	No archaeological resources were uncovered; no further archaeological assessment recommended.	N/A
			Rail Corridor/Vegetation Removal	Yes (West of Minet’s Point Road in the City of Barrie)	Stage 2 Test Pit Survey between Essa Road and Allandale GO Station (west of Minet’s Point Road) Stage 2 limited to narrow green space in the MX-owned rail ROW between Essa Road and the GO Station pedestrian underpass, opposite the GO platform Archaeological monitoring during construction in the tracks adjacent to the Allandale Historic Station to determine if there are any deeply buried archaeological resources (Stage 2 is not viable in these lands-- thus construction monitoring is the only option).	Stage 2 Assessment to be completed by ASI as part of the Metrolinx Barrie Rail Corridor Expansion (BRCE) Project

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
			Stouffville	Scarborough TPS and Tap Location	Yes	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Scarborough 25 kV Feeder Route	No	No further assessment recommended	N/A
				Unionville PS	Yes (partial area)	Stage 2 Pedestrian and Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Lincolnville PS	Yes	Stage 2 TP Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Rail Corridor/Vegetation Removal	No	No further assessment recommended	N/A
			Lakeshore East	ERMF TPS and Tap Location	No	No further assessment recommended	N/A
				Scarborough SWS	No	No further assessment recommended	N/A
				Durham SWS	Yes (partial area) No (partial area)	Stage 2 Test Pit Survey No further assessment recommended	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted N/A
				Don Yard PS	N/A - Previously assessed/ does not retain archaeological potential	N/A - Previously assessed/ does not retain archaeological potential	N/A
				Rail Corridor/Vegetation Removal	No	No further assessment recommended.	N/A

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
			<p>In addition, a Cultural Heritage Screening Report (CHSR) was prepared as part of the TPAP which identifies known or potential cultural heritage resources (CHRs) that may be affected by Electrification. For the GO Rail Network Electrification TPAP, the Study Area includes: potentially affected bridges/structures along the rail corridor ROW, traction power facility sites, GO Stations and existing GO Maintenance Facilities that will be modified. The approach to screening bridges/structures along the rail corridor was scoped to address only those bridges/structures that are anticipated to be impacted by the proposed electrification infrastructure (e.g., due to an OCS attachment, clearance issue, etc.). With respect to culverts, while no impacts to culverts are anticipated due to electrification, any known heritage culverts were automatically screened in. Similarly, any other resources within the study area that are known PHP (Provincial Heritage Property) or PHPPS (Provincial Heritage Property of Provincial Significance) were also automatically screened in.</p> <p>Based on the results of the CHSR, a comprehensive Cultural Heritage Impact Assessment Report (CHIA) was prepared to provide recommendations for further analysis, mitigation where necessary and identify next steps.</p> <p>Based on the results of the CHIA, Cultural Heritage Evaluation Reports (CHERs) were conducted to confirm cultural heritage value of potential CHRs and to identify associated heritage attributes. Cultural heritage value for evaluation included:</p> <ul style="list-style-type: none">- 10/06 Properties (Provincial Heritage Properties of Provincial Significance) are properties found to have cultural heritage value or interest of provincial significance as evaluated using the criteria found in Ontario Heritage Act O. Reg. 10/06.- 9/06 Properties are properties of cultural heritage value or interest as evaluated using the criteria found in Ontario Heritage Act O. Reg. 9/06 (local significance). <p>Copies of the CHERs completed to-date are provided in Appendix M (which was included in the Draft EPR package provided to Huron-Wendat).</p> <p>Heritage Impact Assessments (HIAs) will be undertaken to assess where there are any impact to known Provincial Heritage Properties (PHPs) or Provincial Heritage Properties of Provincial Significance (PHPPS).</p>				
3	Archaeology	The Huron-Wendat has not reached any official position regarding this project and cannot comment on a project for which we do not know exactly what the impacts are, or will be, until all appropriate archaeological assessments are completed and until we are able to conduct our own review of the project documents	<p>Please see response to item 2 that outlines the Archaeological Assessment work that has been completed to date for the Electrification project. In addition, a copy of the Stage 1 Archaeological Assessment Report was provided to the Huron-Wendat in the January 2017 Draft EPR package for your review and comment.</p> <p>In addition, Metrolinx met with representatives of the Huron-Wendat Nation on April 19th, 2017. At that meeting, the Huron-Wendat Nation confirmed they are only interested in reviewing the archaeological reports related to Metrolinx undertakings, including electrification. On May 3rd, 2017, Metrolinx formally offered the Huron-Wendat Nation capacity support in order to ensure Huron-Wendat capacity to review the related archaeological reports.</p>				
4	Funding	Such a review, of course, requires funding, which we hope will be addressed through the negotiation of a Project Specific Agreement	<p>Metrolinx met with representatives of the Huron-Wendat Nation on April 19th, 2017. At that meeting, the Huron-Wendat Nation confirmed they are only interested in reviewing the archaeological reports related to Metrolinx undertakings, including electrification. On May 3rd, 2017, Metrolinx formally offered the Huron-Wendat Nation capacity support in order to ensure Huron-Wendat capacity to review the related archaeological reports.</p>				
5	Consultation	We want to be clear that the Huron-Wendat Nation is not in any position to approve or consent to the project, and we do not support the development of any part of this project until our concerns are address through our future Framework Agreement and Project Specific Agreement for the Go Rail Electrification Network Project	<p>On May 3rd, 2017, Metrolinx formally offered the Huron-Wendat Nation an engagement protocol that outlines Metrolinx’ action plan for informing and engaging the Huron-Wendat Nation in the environmental assessment process with respect to Metrolinx’ Regional Express Rail program, including Electrification.</p>				

Table 1-54: Huron-Wendat First Nation Draft EPR Comments and Responses (Stage 1 Archaeology Assessment Report)

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																																																
HURON-WENDAT FIRST NATION																																																			
Archaeological Baseline Conditions Report																																																			
1	Project Scope	Scope of the Study and Report Methodology	The summarization of the scope and methodology of the archaeological baseline conditions report, provided on pages 2-3 of Huron-Wendat’s submission is acknowledged.																																																
2	Project Scope	The baseline study indicated that 36 sections of rail corridor will require Stage 1 archeological assessment. The locations of 4 switching stations, 4 traction power stations, and 5 paralleling stations will require archaeological assessment. The report outlines the methods to be used for the stage 1 assessment, including reviewing locations of sites in the study area that are registered in the Ontario Sites Database, evaluating archaeological potential, reviewing site sensitive information, such as cemetery locations, and undertaking a property inspection.	This summarization of the scope of the archaeological baseline conditions report is acknowledged.																																																
3	Registered archaeological sites	<div><p>In addition to the above, for each corridor, ASI provides a list of additional work that they will carry out for the Stage 1 assessment is specific to each corridor. Of interest to the Huron Wendat Nation, are the following items:</p><p>1. The list of 17 registered archaeological sites, for which the Cultural Heritage Value or Interest will be determined, or for which an assessment or mitigation strategy will be proposed. The cultural affiliation of these sites is not stated in the report but has been determined as much as possible using the MTCS database.</p><table><tr><th>Borden number</th><th>Cultural affiliation as determined by the MTCS database</th><th>Work to be undertaken by ASI</th></tr><tr><td>AhGx-31</td><td>Late Archaic</td><td>Confirmation of current conditions</td></tr><tr><td>AhGx-714</td><td>Late Archaic</td><td>Mitigation strategy</td></tr><tr><td>AkGu-23</td><td>Site not listed in database</td><td>Confirmation of CHVI</td></tr><tr><td>AkGu-30</td><td>Cultural affiliation not specified in database</td><td>Confirmation of CHVI</td></tr><tr><td>BaGv-18</td><td>Precontact, lithic</td><td>Assessment strategy</td></tr><tr><td>BbGv-50</td><td>Post contact homestead</td><td>Assessment strategy</td></tr><tr><td>BbGv-51</td><td>Post contact homestead</td><td>Background research and assessment strategy</td></tr><tr><td>BbGv-52</td><td>Post contact homestead</td><td>Background research and assessment strategy</td></tr><tr><td>BbGv-20</td><td>Late Woodland</td><td>Background research and mitigation strategy</td></tr><tr><td>BcGw-69</td><td>Late Woodland (Uren)</td><td>Mitigation strategy</td></tr><tr><td>AkGt-16</td><td>Cultural affiliation not specified in database</td><td>Background research and assessment strategy</td></tr><tr><td>AkGt-21</td><td>Cultural affiliation not specified in database</td><td>Background research and assessment strategy</td></tr><tr><td>AlGt-130</td><td>Late Archaic</td><td>Assessment strategy</td></tr><tr><td>AkGt-15</td><td>Cultural affiliation not specified in database</td><td>Background research and assessment strategy</td></tr><tr><td>AkGs-27</td><td>Post contact crib works</td><td>Assessment strategy</td></tr></table></div>	Borden number	Cultural affiliation as determined by the MTCS database	Work to be undertaken by ASI	AhGx-31	Late Archaic	Confirmation of current conditions	AhGx-714	Late Archaic	Mitigation strategy	AkGu-23	Site not listed in database	Confirmation of CHVI	AkGu-30	Cultural affiliation not specified in database	Confirmation of CHVI	BaGv-18	Precontact, lithic	Assessment strategy	BbGv-50	Post contact homestead	Assessment strategy	BbGv-51	Post contact homestead	Background research and assessment strategy	BbGv-52	Post contact homestead	Background research and assessment strategy	BbGv-20	Late Woodland	Background research and mitigation strategy	BcGw-69	Late Woodland (Uren)	Mitigation strategy	AkGt-16	Cultural affiliation not specified in database	Background research and assessment strategy	AkGt-21	Cultural affiliation not specified in database	Background research and assessment strategy	AlGt-130	Late Archaic	Assessment strategy	AkGt-15	Cultural affiliation not specified in database	Background research and assessment strategy	AkGs-27	Post contact crib works	Assessment strategy	<p>The archaeological baseline conditions report is a preliminary report for planning purposes to notify the project team of potential archaeological issues and challenges before the project impacts are fully known.</p> <p>The subsequent Stage 1 Archaeological Assessment (AA) report provides more accurate tables of sites captured within 1 km of the project limits and further details as per the requirements of Standards and Guidelines for Consultant Archaeologists (see tables 3-1, 3-2, 3-5, 3-8, 3-11, 3-14). Additional background research is provided in Section 3.4.1.2 of the Stage 1 archaeological assessment report for the registered archaeological sites BcGv- 20 (Heritage Glen) and BcGw-69 (Allandale).</p> <p>It is acknowledged that HWN has provided further comments with respect to registered archaeological sites BcGv- 20 (Heritage Glen) and BcGw-69 (Allandale) based on their review of the Stage 1 Archaeological Assessment Report in comments 15, 16, 17, and 23 below.</p>
Borden number	Cultural affiliation as determined by the MTCS database	Work to be undertaken by ASI																																																	
AhGx-31	Late Archaic	Confirmation of current conditions																																																	
AhGx-714	Late Archaic	Mitigation strategy																																																	
AkGu-23	Site not listed in database	Confirmation of CHVI																																																	
AkGu-30	Cultural affiliation not specified in database	Confirmation of CHVI																																																	
BaGv-18	Precontact, lithic	Assessment strategy																																																	
BbGv-50	Post contact homestead	Assessment strategy																																																	
BbGv-51	Post contact homestead	Background research and assessment strategy																																																	
BbGv-52	Post contact homestead	Background research and assessment strategy																																																	
BbGv-20	Late Woodland	Background research and mitigation strategy																																																	
BcGw-69	Late Woodland (Uren)	Mitigation strategy																																																	
AkGt-16	Cultural affiliation not specified in database	Background research and assessment strategy																																																	
AkGt-21	Cultural affiliation not specified in database	Background research and assessment strategy																																																	
AlGt-130	Late Archaic	Assessment strategy																																																	
AkGt-15	Cultural affiliation not specified in database	Background research and assessment strategy																																																	
AkGs-27	Post contact crib works	Assessment strategy																																																	

Item No.	Issue	Comment/Issued Raised by Review Agency			How Comment was Considered by Metrolinx
		AkGs-51	Precontact	Assessment strategy	
		AkGs-25	Precontact scatter	Background research and assessment strategy	
		AkGs-110	Not listed in MTCS database	Background research	
		The sites that are likely to be of greatest interest to the HWN are BbGv-20 and BcGw-69 (Allandale). There are a number of other pre-contact sites that appear to be small scatters, some of them quite ancient. In some cases, there is little available information on the registered sites, and it is hoped that the background research will clarify the age and cultural affiliation of the sites.			
4	Barrie Corridor	The ossuary potential assessment strategy that will be applied in the Barrie corridor.			Acknowledged. The HWN comment notes that ASI will provide further detail about the ossuary potential assessment in the Stage 1 AA report—and that the Barrie corridor is of particular interest to the HWN. The Stage 1 AA report provides further detail regarding the ossuary potential strategy of interest to the HWN as is noted in HWN comments (#15, 16, 17, 23) below.
5	General	In sum, the report is a comprehensive review of the areas that will need to be examined for the proposed electrification of the Go Transit network. This report highlights the work that will need to be conducted for the Stage 1 assessment, and the HWN sees no issues with the strategies proposed, which include both requirements under the Standards and Guidelines and additional work that will be conducted in specific areas as needed and described above. The baseline report does not include a specific strategy for Indigenous engagement. It is assumed that this is subsumed in the Stage 1 assessment.			This summarization of the baseline conditions report scope is acknowledged. A specific strategy for Indigenous engagement is provided in Section 4.4.6 of the Stage 1 AA for any project impact, including impacts on the Barrie corridor in the vicinity of the Historic Allandale Train Station and the new Allandale Waterfront GO Station. With respect to Indigenous engagement, please refer to Volume 4 of the Draft EPR which summarizes consultation/engagement efforts undertaken for the GO Rail Network Electrification project.
Stage 1 Archaeological Assessment Report					
6	Project Scope	Scope of the Study and Report Methodology			The summarization of the scope and methodology of the Stage 1 Archaeological Assessment Report, provided on pages 2-3 of Huron-Wendat’s submission is acknowledged.
7	Union Station Rail Corridor	A very comprehensive description of the history of this area was provided; the study area is located in an area that would have been in a) Lake Ontario and b) the Don River Marsh. In the latter instance, the report ‘the strand-nature of any solid ground precludes any permanent or long-term settlement’ (p. 15). The lakeshore area was subject to extensive modification by Europeans through filling. The report states that the lands were subject to disturbance due to railway construction (p. 28). ASI indicates that while there is potential to discover European constructed features in this area, the impact of construction on these features would be relatively minimal and that it would be difficult to undertake any ‘meaningful form of Stage 2 archaeological assessment’ (p. 122). They assert ‘that no further archaeological assessment is therefore required (p. 133). Given the settlement history in this area, this is a solid assertion and it is highly improbable that a) Stage 2 assessment would recover any evidence of Indigenous artifacts and b) that any Indigenous sites will be impacted by the modifications needed for the Overhead Contact/Cable System.			This summarization of ASI’s interpretations and recommendations for this section of the Stage 1 archaeological assessment report are acknowledged.
8	Lakeshore West Corridor – site AiGw-87	The background research revealed that there are two registered archaeological sites (AiGw-87 and AjGv-49) within 50 m of the study area. One of these, AiGw87 is described as an isolated find dating to the Archaic. The report states that the Cultural Heritage Value or Interest is unknown – the site was recorded in the 1970s and few details are available. The report also states that the site is located outside the footprint of the Overhead Cable System, so no archaeological assessment is required. If the site is indeed a single findspot, then the assertion that no assessment is required makes sense. However, the fact that the report states that the Cultural Heritage Value or Interest is unknown suggests that it is possible that the site could consist of more than a single			Based on the available information the site (AiGw87) was determined to be a findspot – implying that a single artifact was recovered. The size of the site is known, and falls outside the Electrification project impact footprint. The unknown factor is the nature of the find (type, material, size etc.) because no description of the artifact was provided.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		artifact. If this is the case, it would be prudent to determine the site boundaries before stating that it falls outside the footprint.	
9	Lakeshore West Corridor – site AjGv-49	The second site, AjGv-49, is also an Indigenous site dating to the Archaic. It was subject to Stage 3 test excavations by ASI in 2000, and based on their findings they recommend no further mitigation. They state that the site has no Cultural Heritage Value or Interest.	This summary is acknowledged.
10	Lakeshore West Corridor – Glen Road Subdivision	The report describes the results of eight previously conducted archaeological assessments within 50 meters of the corridor. In most cases they state the findings of the reports, which in most cases was that there was no further assessment recommended. In the case of the report on the Glen Road Subdivision (p.43) the findings were not stated.	Descriptions of previous assessments are provided when they are directly relevant to the Electrification project (i.e. sites were found, study areas overlap, recommendations are relevant to the project etc.). In this case the Glen Road Subdivision report has no direct relevance to the project other than its proximity.
11	Lakeshore West Corridor – further assessments	Property inspections were undertaken for the study area. In some instances this determined that there was disturbance to the extent that there was no further archaeological potential. In these cases the report states the reason for the disturbance. In other instances Stage 2 assessments were recommended. The locations requiring further investigation are the Mimico Tap Location and Traction Power Facility, Burlington Tap Location and Traction Power Facility, and selected bridges on the route.	This summary of ASI results/recommendations is acknowledged.
12	Kitchener Corridor – assessment areas	Background research revealed that there were no registered archaeological sites within 50 m of the study area. Only one previous archaeological assessment from the study area was discovered. That assessment did locate areas of archaeological potential near the Humber River and Mimico Creek, but they were outside the study area for this project.	This summary of ASI results/recommendations is acknowledged.
13	Kitchener Corridor – property inspections	Property inspections for three areas of interest were carried out. These determined that there is no archaeological potential for the Bramalea Feeder Route and the Overhead Contact/Cable System Footprint. The potential for the Bramalea Paralleling Station could not be fully determined so stage 2 assessment is recommended.	This summary of ASI results/recommendations is acknowledged.
14	Barrie Corridor – background research	Background research determined that five registered archaeological sites lie within 50 meters of the study area. One of these is Euro-Canadian, two are considered to have no Cultural Heritage Value or interest, one is poorly known and assumed to have been destroyed and the fifth is the Allandale site. A large number of previous archaeological assessments have been conducted within 50 m of the study area. The results of these assessments are usually, but not always stated in the report. In many cases, the assessments recommended no further work.	Generally speaking, previous assessment results are stated when they are of direct relevance to the project, (i.e. sites were found, study areas overlap, recommendations are relevant to the project etc.).
15	Barrie Corridor – Heritage Glen	The assessment reports of particular interest to the Huron Wendat Nation will be those describing the Heritage Glen site (BcGv-20) (p. 75-76) and the Allandale site (BcGw-69) (p. 7678). The Heritage Glen site is described as a large ancestral Huron-Wendat village. Previous work at this site included stage 2 and stage 3 work by DR Poulton and associates, and stage 2 and 3 work by New Directions Archaeology Limited. The Allandale site is described as an ancestral Huron-Wendat village and ossuary. Work was conducted at the site by a number of archaeologists.	This summary of ASI background research is acknowledged.
16	Barrie Corridor – stage 2 assessments	Property inspections were conducted for the Newmarket Switching Station, the Gilford Paralleling Station, the Allandale Tap Location and Traction Power Station, the Barrie Collingwood Feeder Route and the Overhead Contact/Cable System and bridges. Inspection of the location of the Maple Paralleling Station was determined unnecessary because ASI had previously inspected the area. It should be noted that the location of the Allandale Tap Location and the Traction Power Station is 1.4 km from the Allandale Station, which is where the registered ancestral Huron-Wendat site and ossuary are found.	This summary of ASI results/recommendations is acknowledged.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		The report recommends that stage 2 assessments be undertaken in the following locations: the Newmarket Switching Station, the Gilford Paralleling Station, the Allandale Tap Location, the footprint of the Overhead Contact/Cable System west of Minet’s Point Road and at selected bridges.	
17	Barrie Corridor – Allandale site	<p>In addition, the report states the following with respect to the Allandale site:</p> <p>Any work near this highly significant site initially requires a Stage 2 archaeological assessment (preferably with the engagement of interested Indigenous communities) to better define the archaeological integrity and limits of the site. Previous archaeological assessments of the site have been of limited scope and have</p>	<p>This summary of ASI results/recommendations is acknowledged.</p> <p>The Heritage Glen site is within 50 m from the project area as is stated on page 75 and 76. However the project is not expected to impact the site, therefore no specific recommendations have been made in this report. Please see also, response to Comment #10 above.</p>
		<p>not fully characterized the nature and extent of the archaeological deposits. Accordingly, depending on the results of the Stage 2 assessment, there is a strong possibility that further Stage 3 archaeological assessment (again with Indigenous engagement) and, ultimately, Stage 4 mitigation – protection/avoidance of the Allandale site will be recommended. As with all such significant archaeological sites, it is preferable that impacts to the site are mitigated through development of a Stage 4 protection and avoidance strategy. This would require that a licensed archaeologist monitor the construction activities to ensure that no impacts to the site occur during construction. If the site cannot be fully protected and avoided, then some archaeological mitigation through salvage excavation, with Indigenous engagement, may also be required. Finally, due to the previously documented evidence of disturbed human remains on the historic Allandale Station site, archaeological monitoring of any proposed impacts to the historic station, as well as to any crawl spaces or soils beneath existing structures without basements is recommended. (p. 126-127)</p> <p>Specific recommendations about the Heritage Glen site are not discussed in the recommendations, presumably because the site does not lie within 50 metres of the study region.</p>	
18	Stouffville Corridor – background research	<p>Background research revealed that there are four registered archaeological sites within 50 meters of the study area. One of these is Euro-Canadian, one is an Archaic lithic scatter and two are poorly known.</p> <p>A number of archaeological assessments have been undertaken within 50 meters of the study area. In many instances these assessments indicated no further archaeological assessments were recommended. However, of interest to the Huron-Wendat Nation would be the assessment of the Stouffville rail corridor (p. 93) that indicates part of that ossuary potential modelling suggests that an ossuary associated with the ancestral Huron-Wendat site Alexandra could fall within that corridor. The report indicates that this does not apply to the current study region, however.</p>	<p>Correct, the ossuary potential area does not overlap with the project limits.</p>
19	Stouffville Corridor – property inspections	<p>Property inspections were undertaken for the study area. In some instances this determined that there was disturbance to the extent that there was no further archaeological potential. In these cases the report states the reason for the disturbance. In other instances Stage 2 assessments were recommended. The locations requiring further investigation are the Scarborough Tap Location and Traction Power Station (partial), Unionville Paralleling Station (partial), Lincolnville Paralleling Station, and selected bridges.</p>	<p>This summary of ASI results/recommendations is acknowledged.</p>
20	Lakeshore East Corridor – background research	<p>Background research determined that there are four archaeological sites located within 50 meters of the study area. Two of these are indigenous sites which are determined to have no further Cultural Heritage Value or Interest because they are single findspots that have already been subject to further investigation. One of these is a Euro-Canadian site, also determined to be of no further Cultural Heritage Value or Interest. The fourth site is poorly known, having been reported by Ontario Hydro workers in 1950. This site would require further investigation to determine if it has Cultural Heritage Value or Interest.</p>	<p>This summary of ASI results/recommendations is acknowledged.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
21	Lakeshore East Corridor – archaeological assessments	A number of previous archaeological assessments have been completed within 50 meters of the study area. As was the case, for the other corridors, in many cases these assessments indicate that no further assessment is necessary. In other cases, recommendations to undertake further assessments do not apply because they are not recommended for the corridor study area.	This summary of ASI results/recommendations is acknowledged.
22	Lakeshore East Corridor – property inspections	Property inspections were undertaken all of the study area, except for those locations that had been previously assessed. The inspections demonstrated that in many cases the locations were disturbed. As such, further assessments are only recommended for two locations: the Durham Switching Station (partial) and at selected bridges.	This summary of ASI results/recommendations is acknowledged.
23	Report Assessment	While the area to be impacted by the electrification project is extensive, this report has carefully and thoroughly examined the study area. The largest portion of the study area is the footprint of the Overhead Cable/Contact System, and this is almost completely disturbed, with areas of concern being mainly where	Acknowledged. Metrolinx appreciates and respects Huron-Wendat Nation’s desire to be aware of and, the degree possible, engaged regarding any discovery and preservation of artifacts and sacred burial grounds at the Allandale sites (BcGW-69).
		bridges will need to be raised. There are very few registered archaeological sites within the study area, and most of these have already been determined to have no remaining Cultural Heritage Value or Interest. The report highlights the importance of the Allandale sites (BcGw-69). As an ancestral Huron-Wendat site and ossuary, this location should be of concern to the Huron-Wendat Nation. The plan for the Allandale site quoted above underscores the importance of this site, and recommends that there is a stage 2 assessment in advance of any work in the vicinity of the site. They state that this would be ‘preferably with Indigenous engagement.’ The Huron-Wendat Nation is requesting to be engaged at this stage and stage 2 as well as at any subsequent stages.	The OCS/Vegetation Zone footprint between Essa Road and the Allandale GO Station, specifically in the grassed area in the track ROW requires a Stage 2 test pit survey to confirm disturbance because the area is adjacent to the sensitive Allandale Site (BcGW-69). Huron-Wendat Nation will be engaged when any further archaeological assessment is proposed/undertaken in this area.

Table 1-55: Mississaugas of the New Credit First Nation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
MISSISSAUGAS OF NEW CREDIT			
1	Natural Environment Field Work	It was noted in Section 3.3.2 Appendix A1 that there will an Impact Assessment phase. For all assessments or sampling being done, aquatic, vegetation etc. MNCFN expects our Field Liaison representatives to be present.	An impact assessment phase has been completed as documented in Volume 3 (Impact Assessment) and the Natural Environment Impact Assessment Report contained in Appendix A2. With respect to Archaeological Assessments, Metrolinx generally follows the Ministry of Tourism Culture & Sport’s guidelines relating to monitoring during Stage 3 & 4 archaeological assessment work. Should Stage 3 or 4 Archaeological Assessments be required during the detailed design phase, the Mississaugas of New Credit First Nation (MNCFN) will be notified and arrangements made as appropriate for participation in on site monitoring activities.
2	Tree/Vegetation Clearing Requirement	MNCFN would like to survey areas where there is planned vegetation clearing ahead of time to harvest any plants/trees that may have cultural significance to the First Nation.	<p>As discussed in the Natural Environment Impact Assessment Report (Appendix A2) MX will prepare Vegetation Management Plans as part of the Detail Design process, which will include Tree/Vegetation Compensation Protocol (see below for details). The end use of trees will be addressed under the Protocol. The vegetation clearance zone is shown in in Appendix G (ELC Corridor Maps) of the Natural Environment Impact Assessment Report (Appendix A2).</p> <p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
3	Natural Environment Field Work	It is noted in Section2.3.1 Appendix A1 that the vegetation impact assessment was completed but did not entail field surveys or ground truthing to delineate impact areas within the vegetation clearing zone. How can potential SAR or rare vegetation be identified if no ground truthing was done as part of the assessment?	<p>As part of the Natural Environment Impact Assessment Report (Appendix A2), field investigations were completed at the proposed Traction Power Facility locations (where permission to enter was granted) and at select locations along the rail corridors as summarized in Table 2-1 of Appendix A1.</p> <p>In addition to field investigations, background data was extensively reviewed and referenced in order to prepare Terrestrial and Ecological Land Classification (ELC) mapping. Potential wildlife and Species at Risk (SAR) habitat has been identified and commitments for further investigations during detail design have been included throughout Sections 3.0-5.0 of Appendix A2, which includes detailed tree inventories and additional SAR studies, etc. as/if required.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
4	Natural Environment Migratory Birds	It should be stressed that the migratory bird window must be adhered to for all vegetation clearing in any location where there is suitable habitat for migratory/breeding birds.	The Natural Environment Impact Assessment Report (Appendix A2) acknowledges the migratory bird window of April 1 to August 31. However, there may be circumstances where vegetation clearing is required during this timeframe. In such cases nesting surveys will be completed prior to any removals per standard protocols. If active nests are found, they will not be removed.
5	Tree/Vegetation Compensation	MNCFN would like to receive and review the Vegetation Plan and the Metrolinx Tree/Vegetation Compensation Protocol.	<p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx RER projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: We will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>During the detailed design phase, Vegetation Management Plans will be developed and carried out for each electrified corridor/feeder route to minimize the potential effects related to vegetation and tree removals. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p> <p>Metrolinx will provide the requested documents to MNCFN once available.</p>

Table 1-56: Mississaugas of Scugog Island First Nation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx																																			
MISSISSAUGAS OF SCUGOG ISLAND																																						
1	Archaeology	The Mississauga Nation has been strangely referenced in some of your past contracted archaeological assessment work.	We note that the Indigenous Land Use section of the Stage 1 Archaeological Assessment report contains similar text as is used in the Metrolinx Barrie Layover Facility Stage 2 Archaeological Assessment that was previously reviewed by Williams Treaty First Nation representatives in order to ensure consistency amongst the reports.																																			
2	Archaeology	Depending upon who is conducting the Archaeological Assessment the historical interpretation reflects that respective worldview and so we keep an eye to that aspect of these studies.	Acknowledged.																																			
3	Archaeology	Protecting archaeological resources is one of our key concerns and while the landscape of southern Ontario has been dramatically altered we are constantly concerned on maintaining the integrity of any and all archaeological resources.	<p>A Stage 1 Archaeological Assessment Study was completed for the entire GO Rail Network Electrification Study Area (along rail corridors, feeder routes and taps/traction power facility sites) to determine archaeological potential. Stage 1 Archaeological Assessments involve visual inspection only and do not include excavation or collection of archaeological resources. Following the Stage 1 work, Stage 2 Archaeological Assessments will be undertaken as part of the Transit Project Assessment Process (TPAP) where possible and where Permission to Enter (PTE) access is granted.</p> <p>The following table outlines the results of the Stage 1 AA study including recommendations for further study where applicable. Stage 2 AA reports will also be provided to Mississaugas of Scugog Island once available.</p> <table><tr><th>Rail Corridor</th><th>Project Component</th><th>Archaeological Potential</th><th>Recommendation of Stage 1’s</th><th>Next Steps</th></tr><tr><td>Union Station Rail Corridor</td><td>Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover</td><td>Yes (Possible Deeply Buried Wharf/Cribbing)</td><td>No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative</td><td>N/A</td></tr><tr><td rowspan="5">Lakeshore West</td><td>Burlington TPS and Tap Location</td><td>Yes (partial area)</td><td>Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained</td><td>Stage 2 Assessment to be completed as part of TPAP, where possible/Permission to Enter (PTE) access is granted</td></tr><tr><td>Mimico SWS</td><td>No</td><td>No further assessment recommended.</td><td>N/A</td></tr><tr><td>Mimico (Canpa) 25 kV Feeder Route</td><td>No</td><td>No further assessment recommended.</td><td>N/A</td></tr><tr><td>Mimico TPS/Tap Location</td><td>Yes</td><td>Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained</td><td>Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted</td></tr><tr><td>Oakville SWS</td><td>No</td><td>No further assessment recommended.</td><td>N/A</td></tr></table>					Rail Corridor	Project Component	Archaeological Potential	Recommendation of Stage 1’s	Next Steps	Union Station Rail Corridor	Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover	Yes (Possible Deeply Buried Wharf/Cribbing)	No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative	N/A	Lakeshore West	Burlington TPS and Tap Location	Yes (partial area)	Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained	Stage 2 Assessment to be completed as part of TPAP, where possible/Permission to Enter (PTE) access is granted	Mimico SWS	No	No further assessment recommended.	N/A	Mimico (Canpa) 25 kV Feeder Route	No	No further assessment recommended.	N/A	Mimico TPS/Tap Location	Yes	Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted	Oakville SWS	No	No further assessment recommended.	N/A
Rail Corridor	Project Component	Archaeological Potential	Recommendation of Stage 1’s	Next Steps																																		
Union Station Rail Corridor	Rail Corridor/Vegetation Removal Zone from UP Express Union Station to Don Yard Layover	Yes (Possible Deeply Buried Wharf/Cribbing)	No further assessment recommended: Stage 2 archaeological assessment or archaeological monitoring not practical nor likely informative	N/A																																		
Lakeshore West	Burlington TPS and Tap Location	Yes (partial area)	Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained	Stage 2 Assessment to be completed as part of TPAP, where possible/Permission to Enter (PTE) access is granted																																		
	Mimico SWS	No	No further assessment recommended.	N/A																																		
	Mimico (Canpa) 25 kV Feeder Route	No	No further assessment recommended.	N/A																																		
	Mimico TPS/Tap Location	Yes	Stage 2 Test Pit Survey to be completed during TPAP if PTE can be obtained	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted																																		
	Oakville SWS	No	No further assessment recommended.	N/A																																		

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
				Rail Corridor/Vegetation Removal Zone	No	No further assessment recommended:	N/A
			Kitchener	Bramalea PS	Not Determined	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Bramalea 25 kV Feeder Route	No	No Further assessment recommended	N/A
				Rail Corridor/Vegetation Removal	No	No further assessment recommended	N/A
			Barrie	Allandale TPS	No	No further assessment recommended	N/A
				Allandale Tap Location	Yes	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Allandale 25 kV Feeder Route	No	No further assessment recommended:	N/A
				Newmarket SWS	Yes (partial area)	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Gilford PS	Yes	Stage 2 Pedestrian and Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Maple PS	Stage 2 Archaeological Assessment previously completed.	No archaeological resources were uncovered; no further archaeological assessment recommended.	N/A
				Rail Corridor/Vegetation Removal	Yes (West of Minet’s Point Road in the City of Barrie)	Stage 2 Test Pit Survey between Essa Road and Allandale GO Station (west of Minet’s Point Road)	Stage 2 Assessment to be completed by ASI as part of the Metrolinx Barrie Rail Corridor Expansion (BRCE) Project

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
						Stage 2 limited to narrow green space in the MX-owned rail ROW between Essa Road and the GO Station pedestrian underpass, opposite the GO platform Archaeological monitoring during construction in the tracks adjacent to the Allandale Historic Station to determine if there are any deeply buried archaeological resources (Stage 2 is not viable in these lands-- thus construction monitoring is the only option).	
			Stouffville	Scarborough TPS and Tap Location	Yes	Stage 2 Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Scarborough 25 kV Feeder Route	No	No further assessment recommended	N/A
				Unionville PS	Yes (partial area)	Stage 2 Pedestrian and Test Pit Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Lincolnville PS	Yes	Stage 2 TP Survey	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted
				Rail Corridor/Vegetation Removal	No	No further assessment recommended	N/A
			Lakeshore East	ERMF TPS and Tap Location	No	No further assessment recommended	N/A
				Scarborough SWS	No	No further assessment recommended	N/A
				Durham SWS	Yes (partial area) No (partial area)	Stage 2 Test Pit Survey No further assessment recommended	Stage 2 Assessment to be completed as part of TPAP, where possible/PTE access is granted N/A

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx				
				Don Yard PS	N/A - Previously assessed/ does not retain archaeological potential	N/A - Previously assessed/ does not retain archaeological potential	N/A
				Rail Corridor/Vegetation Removal	No	No further assessment recommended.	N/A
<p>In addition, a Cultural Heritage Screening Report (CHSR) was prepared as part of the TPAP which identifies known or potential cultural heritage resources (CHRs) that may be affected by Electrification. For the GO Rail Network Electrification TPAP, the Study Area includes: potentially affected bridges/structures along the rail corridor ROW, traction power facility sites, GO Stations and existing GO Maintenance Facilities that will be modified. The approach to screening bridges/structures along the rail corridor was scoped to address only those bridges/structures that are anticipated to be impacted by the proposed electrification infrastructure (e.g., due to an OCS attachment, clearance issue, etc.). With respect to culverts, while no impacts to culverts are anticipated due to electrification, any known heritage culverts were automatically screened in. Similarly, any other resources within the study area that are known PHP (Provincial Heritage Property) or PHPPS (Provincial Heritage Property of Provincial Significance) were also automatically screened in.</p> <p>Based on the results of the CHSR, a comprehensive Cultural Heritage Impact Assessment Report (CHIA) was prepared to provide recommendations for further analysis, mitigation where necessary and identify next steps.</p> <p>Based on the results of the CHIA, Cultural Heritage Evaluation Reports (CHERs) were conducted to confirm cultural heritage value of potential CHRs and to identify associated heritage attributes. Cultural heritage value for evaluation included:</p> <ul style="list-style-type: none">10/06 Properties (Provincial Heritage Properties of Provincial Significance) are properties found to have cultural heritage value or interest of provincial significance as evaluated using the criteria found in Ontario Heritage Act O. Reg. 10/06.9/06 Properties are properties of cultural heritage value or interest as evaluated using the criteria found in Ontario Heritage Act O. Reg. 9/06 (local significance). <p>Copies of the CHERs completed to-date are provided in Appendix M (which was included in the Draft EPR package provided to Mississaugas of Scugog Island).</p> <p>Heritage Impact Assessments (HIAs) will be undertaken to assess where there are any impact to known Provincial Heritage Properties (PHPs) or Provincial Heritage Properties of Provincial Significance (PHPPS).</p>							
4	Treaty Rights	For your information the Barrie Corridor runs through Toronto Purchase (Mississaugas of The New Credit), Williams Treaties (clause 2) (Alderville, Curve Lake, Hiawatha, Scugog Island, Beausoleil, Georgina Island, Rama), and Chippewa Treaty #18 of 1818 (Beausoleil, Georgina Island, Rama).	Noted. This information will be documented in Volume 4 (Consultation). Updates will also be made to Volume 5 (Commitments and Future Work), Section 1.6 Archaeological Resources to note that should any previously undocumented archaeological resources be uncovered along the Barrie Corridor during construction that the Indigenous communities identified will be notified.				

1.2.7.7 Other Review Agency Comments Received on Draft EPR

Table 1-57 to **Table 1-62** below contain each comment (verbatim) submitted by Other Review Agencies as well as how the comment was considered and responded to by Metrolinx (and Hydro One as appropriate). Please refer to **Table 1-66** for the record of Draft EPR comments received from the Canadian National Railway Company.

Table 1-57: Canadian Pacific Railway Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
CANADIAN PACIFIC RAILWAY			
1	Operation Impacts	<p>With respect to the Metrolinx Electrification TPAP, CP’s concerns are with respect to any impacts the proposed electrification may have on the operation of trains on CP’s lines. In general, we expect Metrolinx to take responsibility for and to mitigate any impacts on CP’s operations. Subsequent to the UP Express TPAP, CP and Metrolinx have been negotiating a Co-operation Agreement that specifies the responsibility of each party for mitigating the impacts of Metrolinx’ electrification of the GO Weston Sub on CP’s Mactier Sub. CP will require a similar agreement following similar principles with respect to the those locations within the study area of the Electrification TPAP that may potentially impact CP.</p> <p>Within the study area of the Electrification TPAP, CP operates:</p> <ol style="list-style-type: none">Across the GO Newmarket Sub at the Davenport Diamond<ul style="list-style-type: none">Though a grade separation is planned to eliminate the Davenport Diamond, CP’s signals, track and other assets must be protected from EMI/EMF effects in accordance with Metrolinx’ EMC Control Plan.Across the GO Uxbridge Sub at a grade separation at mi 203.48 CP Belleville Sub.<ul style="list-style-type: none">Though the GO and CP lines are grade separated, CP’s signals, track and other assets must be protected from EMI/EMF effects in accordance with Metrolinx’ EMC Control Plan.GO Canpa Spur<ul style="list-style-type: none">CP has operating rights on the GO Canpa Spur and continues to service customers along the line. The Mimico feeder line cannot interfere with CP’s freight operations.The Mimico Tap is located adjacent to the CP Galt Sub. CP’s signals, track and other assets must be protected from EMI/EMF effects in accordance with Metrolinx’ EMC Control Plan.Union Station Rail Corridor<ul style="list-style-type: none">CP retains operating rights through the USRC. The electrification project cannot interfere with CP’s ability to operate through the limits of the USRC. The report states that the USRC will be double-stack cleared and that no OCS will be installed over Track 16. It is imperative that freight trains have the ability to traverse the USRC from north to south and south to north in order to connect between the Lower Galt, Weston, Bala, Lakeshore West and Lakeshore East Subs.Emergency Detour Routes<ul style="list-style-type: none">In the event of an emergency, CP could require the use of the Lower Galt, Weston, Bala, Lakeshore West, Lakeshore East and Halton Subs and the USRC to affect freight detours. While the report statesthat these routes will be double-stacked cleared, there should also be no operating restrictions on freight trains over these routes.	<p>Acknowledged. Metrolinx is entering a Cooperation Agreement with CP with respect to the Metrolinx electrification project.</p> <ol style="list-style-type: none">Metrolinx will continue to coordinate and consult with CN, CP, and VIA as appropriate during detailed design where there are interfaces with freight/VIA territory. As outlined in Vol 1, Section 3.14.4 Effects on Freight Operators and VIA Rail, electrification of the GO Network will entail certain modifications to the operations/maintenance practices of freight operators (Canadian National Railway, Canadian Pacific Railway) and VIA Rail which may include the following:<ul style="list-style-type: none">Track Circuits & Grade Crossings will need to be immunized – the EPR will be updated to note that this will be considered and included in the EMC Control Plan to be developed and implemented during detailed design.<ul style="list-style-type: none">Where track is adjacent to Metrolinx electrification<ul style="list-style-type: none">Within Overhead Contact Line Zone (OCLZ)Possibly beyond the OCLZ for induced effects (range will be confirmed during detailed design)Where electrified track crosses over (considered within OCLZ)Where electrified track abuts non-electrified track<ul style="list-style-type: none">Electrified track to third party owned interface locationsElectrified track to third party unsignalled track (e.g. yards) requires TPS returnImmunization includes compatible track circuits, impedance bonds as well as bonding & grounding for TPS currents. The EPR will be updated to note that this will be considered and included in the EMC Control Plan to be developed and implemented during detailed design.Rail operations:<ul style="list-style-type: none">Crew Safety Training will be required (various safety, training, and protocols will need to be established as required, with respect to operating in an electrified railway environment)<ol style="list-style-type: none">See response to item #1.See response to item #1.Acknowledged. A freight route will be maintained through USRC- this is outlined in Vol 1, Section 3.3.1 - The design will include the provision for a route for Double-Stacked Freight. The EPR will be revised to correctly reflect the plan to electrify Track 16, which will meet the clearance requirements for double stack trains ensuring the ability to traverse the USRC from

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>north to south and south to north in order to connect between the Lower Galt, Weston, Bala, Lakeshore West and Lakeshore East Subs.</p> <p>5. Acknowledged. Metrolinx is entering a Cooperation Agreement with CP with respect to the Metrolinx electrification project. This Agreement will cover operating restrictions.</p>

Table 1-58: Fort York National Historic Site Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
FORT YORK NATIONAL HISTORIC SITE			
1	Vegetation Removal	As detailed design proceeds, a detailed plan for the north side of Fort York should be developed in order to inform the required re-planting that will be undertaken as a result of vegetation removal. This will be led by City staff (Economic Development and culture and Parks, Forestry and Recreation Divisions). Metrolinx should assist with the funding of this plan prior to any removals and new plantings;	<p>As noted in Section 4. 1.6 of Draft EPR Volume 3, as well as in Appendix A2 (Natural Environment Impact Assessment Report), limited vegetation removal is proposed outside the Metrolinx owned ROW within Segment LSW -1.</p> <p>Detailed tree inventories will be undertaken during detailed design.</p> <p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal Lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end uses of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
2	Visual Impacts	I do think that the visual impacts along the Fort York NHS portion of the line are high – I think that given all of the public realm improvements planned for this stretch of the corridor, that the moderate doesn't cover it.	The moderate ranking was based on the amount of existing vegetation adjacent to the rail corridor which already provides a degree of visual screening. The categorization of moderate visual impact along the portion of the study area adjacent to Fort York will be reviewed and if necessary updates will be made to the EPR and Visual Impact Assessment Report.
3	Bridge Barriers - Visual	Special consideration should be given to bridge barriers and views from both Strachan and Bathurst Street – with Bathurst Street being a key heritage bridge. I'm not sure it's even in the study – but perhaps just outside the area?	<p>Bathurst Street Bridge is outside the study area for the GO Rail Network Electrification Study area as it was previously reviewed as part of the UP Express Electrification TPAP completed in 2014.</p> <p>Discussions with bridge owners, including the City of Toronto remain ongoing in regards to proposed modifications.</p> <p>Notwithstanding this, as noted in Section 3.9.3.1 of EPR Volume 1, special considerations with respect to the design of bridge barriers for structures of heritage value or sensitivity will be implemented/reflected during detail design – including bridges along the UP Express route.</p>
4	Archaeology	Archaeology is also a consideration in the area of Fort York, but perhaps given the nature of the work proposed, it's not a concern?	The study area adjacent to Fort York National Historic site has been determined to be disturbed and has no further archaeological potential. However additional text will be included in the Stage 1 Archaeological Assessment Report to note that Fort York National Historic site is an archaeologically sensitive.

Table 1-59: Greater Toronto Airports Authority Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
GREATER TORONTO AIRPORTS AUTHORITY			
1	Compliance with GTAA Conditions and Requirements	Accordingly, with regard to the Draft Environmental Project Report, the GTAA requires that the project be in compliance with all outstanding GTAA conditions and requirements as are contained in the documents listed below: <ul style="list-style-type: none">Toronto/Lester B. Pearson International Airport Zoning Regulations SOR/99-123- Aeronautics Acts (Limits structure heights to protect aviation surfaces beyond airport boundaries)Aerodrome Standards and Recommended Practices TP312-Transport Canada (Limits structure heights to protect aviation surfaces within airport boundaries)Airport Construction Code (Facilities Alterations Permit Process)Advisory Circular 700-016-Transport Canada (Prevention of Obstacles affecting One Engine Inoperative Departures)	These requirements will be addressed in two steps: 1) An agreement will need to be established between Metrolinx and Greater Toronto Airports Authority (GTAA) in relation to how the electrification project will be designed and implemented, and 2) final design will be prepared based on the agreement. A commitment to complying with the conditions and requirements as noted by GTAA will be added to Volume 5 of the Environmental Project Report (EPR).
2	RF Concerns (PSOS)	Metrolinx will ensure that both the electrical contractor and the selected rolling stock manufacturer provide the results of all EMC/EMI testing, which shall be done in accordance with IEE standards.	A commitment will be added to Volume 5 of the EPR and the contract document requirements that the results of the Electromagnetic Compatibility/Electromagnetic Interference (EMC/EMI) testing shall be provided to the GTAA.
3	RF Concerns (PSOS)	Request confirmation that Metrolinx’s installation and operations meet or exceed standards for EMF Radiation, RF Emissions and RF Interference as stipulated by the relevant governing standards and bodies at the time of construction, including but not limited to: <ul style="list-style-type: none">Innovation, Science & Economic Development Canada (Formerly Spectrum branch of Industry Canada) Rf Usage and LicensingHealth Canada Safety Code 6.	Governing standards as stipulated by the relevant governing standards and bodies will be considered and incorporated as required in the EMC Control Plan to be developed and implemented as described in EPR Vol 5, Section 1.14.1.
4	Safety Code (PSOS)	Metrolinx will ensure both the electrification contractor and the selected rolling stock manufacturer provide documentation discussing any unexpected voltages that may be generated on exposed surfaces of equipment, tracks etc. The design authority for the power distribution shall provide certifications in this area along with details of any standards thatare followed (IEEE Standards)	The contract document requirements will state that Metrolinx will ensure both the electrification contractor and the selected rolling stock manufacturer provide documentation discussing any unexpected voltages that may be generated on exposed surfaces of equipment, tracks etc. The design authority for the power distribution shall provide certifications in this area along with details of any standards that are followed (IEEE Standards)
5	Safety Code (PSOS)	It would be prudent to verify that all is good by conducting surveys with trains coming and going. (Nav Canada previously provided a few guidelines on maximum interference levels).	As part of the electrification commissioning phase, testing and verification will be completed – this is outlined in Section 1.14.4 of EPR Volume 5.
6	Safety Code (PSOS)	Still to be confirmed with Nav Canada are the MLAT expansion plans and potential areas of interference. This can be addressed during the design phase in conjunction with Metrolinx, the GTAA and Nav Canada jointly.	Acknowledged. NavCanada has provided comments dated April 3, 2017 to Metrolinx on the Draft EPR, to which Metrolinx is providing responses. NavCanada provided a map of the existing operational CNS facilities at Toronto Pearson International Airport, including the two MLAT Remote Units that are part of the currently operational MLAT system at CYYZ, and located in close proximity (< 100 meters) to the UP Express. Further discussions will be held with GTAA and NavCanada to confirm expansion plans and potential areas of interference during detailed design.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
7	Changes to Project Design	We further advise Metrolinx they are to inform the GTAA of the proposed changes to the areas that are jointly supported with the GTAA’s Emergency Services prior to the final design acceptance by Metrolinx. The denoted areas of interest are to be reviewed jointly and changes as required made to the design to facilitate safe and efficient EMS Support.	Metrolinx will inform the GTAA of the proposed changes to the areas that are jointly supported with the GTAA’s Emergency Services prior to finalizing the design. The denoted areas of interest will be reviewed jointly. This will be reflected in the contract document requirements.
8	Confirmation of Commitments	We trust that Metrolinx will address the GTAA’s comments, and to that end, confirm in writing the incorporation of the identified requirements in the PSOS document and any other relevant materials which will define the design, construction and equipage of the UP Express/GO Rail electrification project.	Acknowledged, please see responses to Comments #1 to 7. Incorporation into PSOS and other relevant documents as noted will be confirmed with GTAA. In addition, coordination/consultation with GTAA as required will continue as the final design is developed.

Table 1-60: NavCanada Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
NAV CANADA			
1	EMI	EMI related to electrification and its potential impact on the NAV CANADA (NC) Air Navigation System (ANS) is of concern as reviewed at our Feb 1, 2017 meeting and outlined in the March 10, 2014 letter from NAV CANADA found in the attached e-mail.	Comment noted – please see responses below.
2	UP Express	The original comments captured in the March 10, 2014 letter pertained to the UP Express electrification works and as re- stated at our meeting February 1, 2017, we require those concerns to be addressed.	These comments and Metrolinx responses have been included below.
Up Express March 10, 2014 Letter			
2a.	UP Express - EMI	<p>As discussed at previous NAV CANADA/GTAA/MetroLinx meetings, the issue of electromagnetic interference (EMI) generated by the proposed ARL – specifically, the potential impact on existing NAV CANADA communications, navigation, and surveillance (CNS) facilities – will be addressed in the EMI/EMF assessment and the EMC Control plan to be developed by MetroLinx. The EMI/EMF assessment must take into consideration CNS system performance specifications as per the current International Civil Aviation Organization (ICAO) Annex 10 (Aeronautical Telecommunication - International Standards & Recommended Practices). Below are the minimum signal field strength and the maximum tolerable noise levels taken from Annex 10 for a few existing operational CNS system at Pearson International Airport (CYYZ).</p> <ul style="list-style-type: none">• VHF Air Traffic Control (ATC) Voice Communication Receivers (Annex 10, Volume 3, Part II, Section 2.2 & 2.3)<ul style="list-style-type: none">○ Any undesired signal must be 15 dB below 20 uV/m (which is a minimum acceptable signal throughout the service volume). In addition, a 10 dB margin is required to account for noise from other sources from within surrounding area.• Instrument Landing System (ILS) including Localizer and Glidepath (Annex 10, Volume 1, Section 3.1)<ul style="list-style-type: none">○ Minimum signal of 40 uV/m is required within the ILS service volume.○ In addition, NAV CANADA Flight Inspection standard require that any interference signals present within ILS service volume must not exceed 24.5 dBuV/m or 16.8 uV/m as part of the ILS operational certification.• Distance Measuring Equipment (DME) (Annex 10, Volume 1, Section 3.5.4)	<p>For your information and reference, the baseline EMI/EMF measurements taken as part of the UP Express Electrification TPAP are documented in the UP Express EMC Report (March, 2014) that was included as Appendix H to the EPR. A copy of this report can be found online here: http://www.gotransit.com/electrification/en/project_history/default.aspx</p> <p>In addition, the baseline EMI/EMF measurements taken as part of the current GO Rail Network Electrification TPAP are documented in the Draft Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report (January 2017) that was included as Appendix J to the EPR. A copy of this report as well as the EPR was provided to NavCan on January 18, 2017.</p> <p>As the next step in the process, and as part of detailed design, the Contractor will be responsible for taking additional measurements to verify baseline EMI levels along the Kitchener/UP Express corridor, including identification/consideration of all operational CNS and VHF ATC Voice Communication Receivers to verify that emission and noise levels will be in compliance with ICAO Annex 10 requirements.</p> <p>The expected impacts on the CNS facilities from emissions and noise levels from train operations will be calculated through the application of methodologies developed by prior studies, and will use actual distance, frequency and signal strength values for the identified CNS equipment.</p> <p>The requirement to determine actual EMI values and impacts on the CNS and VHF ATC Voice Communication Receivers and validate that they meet all of the ICAO Annex 10 requirements under full UP Express operating conditions will be included as a requirement in the contract documents.</p> <p>The results of the calculations to verify existing EMI levels and any necessary updates to the EMC Control Plan Report(s) will be provided to NAV CANADA prior to completion of the procurement process.</p>

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">○ Peak equivalent isotropically radiated power shall ensure -89 dBW/m² within collocated ILS service volume○ Receiver shall trigger transponder at -103 dBW/m² received peak power density;○ Recommendation: "Protection against interference outside the DME frequency band should be adequate for the sites at which the transponders will be used."• Multilateration (MLAT) information is being requested and will follow.	
2b.	UP Express - EMI	Any other radio frequencies to be used in association with the operations of the proposed ARL (signalling, walkie-talkie, etc.), shall not generate intermodulation products among themselves or with other existing frequencies that will cause harmful interference to existing NAV CANADA operational frequencies.	The contract documents will include a requirement that the Contractor be required to verify that RF equipment selected for incorporation into the design or operation of the UP Express (ARL) will meet this standard.
2c.	UP Express - EMI	MetroLinx will provide the complete EMI/EMF assessment and the EMI/EMC control plan reports for review by NAVCANADA prior to commencement of the ARL operation. The EMI/EMC control plan will include the field test plan to verify no harmful EMI interference to NAV CANADA CNS facilities.	See response to 2a.
2d.	UP Express - EMI	In addition, the general guidelines provided in Part II of the current Transport Canada TP1247 (Land Use in the Vicinity of Airports) should be observed. Any deviation to the guidelines can potentially have an impact on existing operational CNS facilities, thus will need to be addressed in the EMI/EMF Assessment and Control plan. For example, the attached pdf shows the Electromagnetic Noise (EMN) protection zones for the ILS runway 23 and 24R, as well as the 500m EMN zone around the existing NAV CANADA ATC Tower Contingency and GTAA's Apron Management Unit communication sites.	The contractor will be required to observe the guideline provided in Part II of the current Transport Canada TP1247 (Land Use in the Vicinity of Airports) as applicable as part of design and operation of the electrified GO system.
2e.	UP Express - EMI	Due to the proximity of the ARL link to Pearson International Airport and the approach to runway 23 in particular, the EMI/EMF assessment must also consider EMI protection for the radio equipment in the aircraft. While the ICAO Annex 10 document mentioned above includes some specifications for the avionics portion, it would be prudent for Metrolinx to consult with the avionic industries and/or authorities such as Transport Canada as necessary to ensure any EMI issue is properly addressed.	EMI protection for aircraft radio equipment will be captured in the updated EMC Control Plan to be prepared and implemented by the Contractor during detailed design. A requirement that the contractor validate this under actual operating conditions, as well as remediation measures if allowable thresholds are exceeded, will be included as a requirement in the contract documents.
2f.	UP Express - EMI	As requested by Metrolinx, we have attached a map of the existing operational CNS facilities at Toronto PIA, including the two MLAT Remote Units (RU) located very close (< 100 meters) to the proposed ARL; these units are part of the currently operational MLAT system at CYYZ.	Noted, see response to item 2a.
2g.	UP Express – General Comment	If you should decide not to proceed with this project, please advise us accordingly so that we may formally close the file. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.	Acknowledged.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
2h.	UP Express – General Comment	NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA Engineering as deemed necessary.	Noted.
3	Consultation	The Draft EPR Volume 4 identifies NAV CANADA as a federal agency. Please note that NAV CANADA is not a federal agency, we are a not-for-profit corporation.	This will be corrected in EPR Volume 4 and elsewhere as required.
4	Emissions	We understand that the proponent has not yet been selected for either the UP Express or GO Rail electrification portions and the electrification program construction has not yet been tendered; however, Metrolinx shall ensure and demonstrate that emissions from electrification will not impact NAV CANADA systems.	As outlined in the response to item 2a, as part of the verification and field testing work to be completed by the Contractor during detailed design, updated EMI baseline calculations as well as the updated EMC Control Plan will both be provided to NAV CANADA to ensure adverse effects are mitigated to the satisfaction of NAV CANADA prior to project implementation.
5	Emissions	As discussed at the Feb 1st, 2017 meeting, Metrolinx is to provide the levels of emissions that are expected from the electrical installations, the train itself and demonstrate that the emissions will not impact NAV CANADA's systems as identified in the March 10, 2014 letter. This applies for all portions of the overall electrification.	See response to item 2a. Expected electrical installation noise level emissions will be calculated and evaluated against applicable standards and requirements to demonstrate that they will not impact NAV CANADA systems. The contractor will select the type of electric train and will be required to demonstrate that the equipment selected meets this requirement.
6	Emissions	Upon the completion of the program, Metrolinx must perform a series of tests to verify that the expected limits have not been exceeded. Results of these tests must be provided to NAV CANADA and must meet NAV CANADA's standards.	Acknowledged. This will be included as requirements in the contract documents, as well as necessary remedial measures if the expected limits are exceeded.
7	Ground Receivers	In addition, NAV CANADA's equipment must meet certain ICAO imposed and Transport Canada enforced limits of sensitivity of our ground receivers, which may be affected by Metrolinx equipment. In that regard, Metrolinx equipment must also not increase the level of background RF noise level by the amount that would compromise S/N and SINAD characteristics of these receivers. If this occurs, Metrolinx will be responsible for corrective action and all costs related thereto.	Evaluation of ground based equipment will be included in the verification calculations and updated EMC Control Plan to be developed during detailed design; this provision will be included as a requirement in the contract documents See response to Comment #5.
8	Runway Zones	As the Kitchener corridor forms a part of the Go Rail Network electrification proposal and runs nearby Toronto Lester B. Pearson International Airport, the two EMN zones for Runway 15L & 15R, in addition to the original 24R & 23 EMN zones identified in March 2014, should be added to the EMI/EMC Study by Metrolinx. Find attached a diagram containing the updated EMN zones.	The updated/additional EMN zones will be captured as appropriate in the verification calculations and updated EMC Control Plan to be developed during detailed design. This will be included as requirements in the contract documents.
9	Coordination with Nav Canada	Please note that beyond the EMI concerns identified, any overhead physical works and structures required for the GO Rail Network and the UP Express electrification works must be coordinated through NAV CANADA Land Use (http://www.navcanada.ca/EN/productsand-services/Pages/land-use-program.aspx)	The Contractor will coordinate with NAV CANADA as required as part of developing the final design.
10	Operations	Appropriate action must be taken by Metrolinx if any issues arise affecting the operation of NAV CANADA ANS systems at Metrolinx expense	This will be included as a requirement in the contract documents.

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
11	Coordination with Nav Canada	If you should decide not to proceed with this project, please advise us accordingly so that we may formally close the file. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.	Noted.
12	Land Assessment	NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA Engineering as deemed necessary.	Noted.
13	Coordination with Nav Canada	We trust that our concerns as outlined will be addressed by Metrolinx and please ensure that subsequent project requirements documents issued for tender, such as the Project Specific Output Specifications, capture NAV CANADA’s requirements and concerns.	Acknowledged, please see responses to Comments #1 to 12. The contract documents will contain relevant requirements relating to the design of the Metrolinx electrification system in accordance with applicable legislation, codes, etc. including a requirement to demonstrate compliance through field measurements and testing under actual operating conditions, as well as remediation measures if allowable thresholds are exceeded. In addition, coordination/consultation with NAV CANADA as required will continue as the final design is developed.
14	Coordination with Nav Canada	We look forward to continue to collaboratively work with you on this very important project. Given the size and importance of this project, open communication between stakeholders will be very important.	Acknowledged. We look forward to continued communication with stakeholders.

Table 1-61: Ontario Power Generation Draft EPR Comments and Responses

Item No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
ONTARIO POWER GENERATION			
1	Project Design – Rolling Stock	I'm just wondering if the scope of the project is open to consideration of other ways of electrification or specific to an overhead catenary system? Advancement is hydrogen fuel cell technology could make this a viable option for GO trains and should be considered.	Metrolinx is continually reviewing technological advances to ensure that we are implementing the most current technology to improve our GO service to residents in the Greater Toronto and Hamilton Area. At this time, we are completing a network- wide environmental assessment to electrify the GO service to get even more people moving.
2	General Comment	Overall, we support electrification as part of Ontario's low carbon economy and climate change strategy.	Thank you for your comments and support for the Network Electrification project.

Table 1-62: Toronto Transit Commission Draft EPR Comments and Responses

Item No.	TTC Sheet No.	Issue	Comment/Issued Raised by Review Agency	How Comment was Considered by Metrolinx
TORONTO TRANSIT COMMISSION				
1	1	Dufferin Bridge Replacement	It is noted that the Dufferin Bridge over the rail corridor will be replaced, rather than lowering the tracks, to get the needed height clearance. Although no impacts are mentioned, the report should note that there are plans to extend the TTC streetcar tracks west from Exhibition Loop to connect to Dufferin Loop and Dufferin Street, including over the Dufferin Bridge. Any redesign of the Dufferin Bridge must include grades, structure, and a cross-section that are acceptable for future streetcar operation, including track connections on either side. Design work on the streetcar track extension is currently proposed to begin in 2017 or 2018.	Acknowledged. TTC’s future plans are noted and will be reviewed and considered during detailed design and in consultation with TTC and the City of Toronto.
2	2	General LRT Labelling, Stouffville Line Bridges	The table (Volume 1 Table 3-7) refers to the SRT stations as "LRT" stations. These references should all be changed to the proper station names (e.g. Ellesmere East RT Station) or to SRT when referring to the line itself. The Scarborough RT is not classified as an LRT line.	Will change references in the EPR to SRT as applicable.
3	3	Dufferin Bridge Replacement	Recommended (Dufferin) bridge replacement must accommodate future streetcar tracks and operation.	See response to comment #1.
4	4	TPS Power System Conflicts	<p>There is no information (voltage, AC/DC, isolated/grounded, etc.) about the traction power system to help us evaluate any interaction between TTC's traction power network and the proposed electrification. The EA concentrates only on OCS and bonding and grounding for utilities.</p> <p>Recommend that the EA further investigates the possible interaction between the proposed electrification system and the existing TTC traction power network, especially where the 2 systems are running in close proximity.</p>	<p>The traction power system is described in Section 3.6 of EPR Volume 1.</p> <p>Potential conflicts and/or potential impacts to TTC infrastructure were reviewed as part of the Utilities Impact Assessment Report provided in Appendix I2 and summarized in Volume 3.</p> <p>Where conflicts have been identified, the Metrolinx Third Party Team will be reaching out to TTC discuss potential solutions to resolve any conflicts. In addition, continued discussions and coordination will be undertaken during detailed design.</p>

1.3 TPAP Phase Consultation

1.3.1 Notice of Commencement

In accordance with Section 7 of *O. Reg. 231/08*, the TPAP commenced on June 14, 2017 with the issuance of the Notice of Commencement. The Notice of Commencement was combined with the *Notice of Public Meetings* (held in June/July 2017) – please refer to Section 1.3.3.1 for a detailed summary of the Public Meetings Round #3. In addition to information about the dates and locations of the public meetings, the notice included the following information:

- The name (Metrolinx) and address of the proponent;
- The name and contact information for James Hartley (Manager of Environmental Programs and Assessment Department for Metrolinx) and Patricia Staite (Environmental Assessments Team Lead for Hydro One);
- A description of the GO Rail Network Electrification project;
- A statement that the TPAP is being undertaken as an assessment of the environmental impacts associated with the project, as required under the Environmental Assessment Act;
- A map showing the project extent, and;
- Information on how to obtain information on the preliminary work done by Metrolinx.

A copy of Notice of Commencement can be found in **Appendix L-2**.

1.3.1.1 Newspaper Publications

The notice was published in numerous newspaper publications with circulation throughout the GO Rail Network Electrification TPAP study area on two separate days in each newspaper as outlined below in **Table 1-63**.

Table 1-63: Notice of Commencement Newspaper Advertisement Dates

Newspaper Publication	Dates Published
Oshawa Durham Central	Monday June 19, 2017 Monday June 26, 2017
Oshawa Express	Wednesday June 21, 2017 Wednesday June 28, 2017
Whitby (Oshawa) This Week	Thursday June 22, 2017 Thursday June 29, 2017
Ajax/Pickering News Advertiser	Thursday June 22, 2017 Thursday June 29, 2017
Stouffville Sun Tribune	Thursday June 22, 2017 Thursday June 29, 2017
Markham Economist and Sun	Thursday June 22, 2017 Thursday June 29, 2017
Barrie Advance	Thursday June 22, 2017

GO Rail Network Electrification TPAP
FINAL Environmental Project Report – Volume 4



Newspaper Publication	Dates Published
	Thursday June 29, 2017
Barrie Examiner	Thursday June 22, 2017 Thursday June 29, 2017
Innisfil Journal	Thursday June 22, 2017 Thursday June 29, 2017
Bradford West Gwillimbury Times	Thursday June 22, 2017 Thursday June 29, 2017
Bradford West Gwillimbury Topic	Thursday June 22, 2017 Thursday June 29, 2017
East Gwillimbury Express/Newmarket Era	Thursday June 22, 2017 Thursday June 29, 2017
The Auroran	Thursday June 22, 2017 Thursday June 29, 2017
Innisfil Examiner	Friday June 23, 2017 Friday June 30, 2017
King Weekly Sentinel	Thursday June 22, 2017 Thursday June 29, 2017
King Connection	Thursday June 22, 2017 Thursday June 29, 2017
Vaughan Citizen	Thursday June 22, 2017 Thursday June 29, 2017
Thornhill/Richmond Hill Liberal	Thursday June 22, 2017 Thursday June 29, 2017
Brampton Guardian	Thursday June 22, 2017 Thursday June 29, 2017
Mississauga News	Thursday June 22, 2017 Thursday June 29, 2017
Oakville Beaver	Thursday June 22, 2017 Thursday June 29, 2017
Scarborough Mirror	Thursday June 22, 2017 Thursday June 29, 2017
Etobicoke Guardian (Mimico)	Thursday June 22, 2017 Thursday June 29, 2017
City Centre Mirror (includes Annex)	Thursday June 22, 2017 Thursday June 29, 2017
East York/Riverdale/Beaches Mirror	Thursday June 22, 2017 Thursday June 29, 2017
North York Mirror	Thursday June 22, 2017 Thursday June 29, 2017
York Guardian	Thursday June 22, 2017 Thursday June 29, 2017
Toronto Star and Toronto Star online	Wednesday June 14, 2017 Wednesday June 21, 2017

Newspaper Publication	Dates Published
French Publications	
Le Metropolitain	Wednesday June 21, 2017 Wednesday June 28, 2017

1.3.1.2 Email/Mail Notifications

In addition to the newspaper publications, and in accordance with O. Reg. 231/08, a copy of the Notice of Commencement was provided via email/mail to the following stakeholders:

- Director, Environmental Assessment and Approvals Branch (EAAB), Ministry of Environment and Climate Change (MOECC);
- Director, Central Region, MOECC;
- Director, West Central Region, MOECC;
- The following Indigenous communities (it is noted that hard copies of the Notice of Commencement were also sent via courier/Canada Post to all Indigenous communities):
 - Alderville First Nation;
 - Beausoleil First Nation;
 - Chippewas of Georgina Island;
 - Chippewas of Rama First Nation;
 - Curve Lake First Nation;
 - Hiawatha First Nation;
 - Huron-Wendat Nation;
 - Kawartha Nishnawbe First Nation;
 - Mississaugas of the New Credit First Nation;
 - Mississaugas of Scugog Island First Nation;
 - Moose Deer Point First Nation;
 - Six Nations of the Grand River;
 - Wahta Mohawks;
 - Anishinabek Nation Union of Ontario Indians;
 - Association of Iroquois and Allied Indians;
 - Métis Nation of Ontario,
 - Williams Treaties First Nations (WTFN); and,
 - Haudenosaunee Confederacy Chiefs Council.
- Every individual who provided a written request for a copy; and

- All members of the public/review agencies/other stakeholders with email/mailing addresses included on the Project Contact List.

Copies of this correspondence can be found in **Appendix L-3 and L-8 to L-11**.

In addition to the Notice of Commencement, Municipalities and the TRCA were provided with copies of the public meeting materials (presentation slides and display boards) via email in advance of the public meetings. Copies of this correspondence can be found in **Appendix L-9 and L-10**.

1.3.1.3 Property Owner Mailing

In addition to the newspaper publications, and in accordance with O. Reg. 231/08, a copy of the Notice of Commencement was mailed via Canada Post to all property owners¹⁶ located within 100m¹⁷ of the project study area. A copy of this correspondence can be found in **Appendix L-3**. This mailing included identified condominium and apartment buildings within the study area; specifically a copy of the Notice was provided to the property manager/contact person at each condominium/apartment requesting that they post a copy of the Notice in the common areas of their buildings. A copy of this correspondence can be found in **Appendix L-3**.

Allandale Tap/TPS Mailer

As a result of advancements to the engineering design the preferred location of the Allandale Tap site was revised from the previous location shown during the public meetings held in November 2016. To inform property owners about this design change a mailer dated June 13, 2017 was sent to all property owners located within 100m of the proposed Allandale Tap/TPS site. This mailing provided a description of the revised preferred Allandale Tap site, a map of the Allandale Tap/TPS site and included a copy of the Notice of Commencement. A copy of this correspondence can be found in **Appendix L-3**.

1.3.1.4 Website Postings

The Notice of Commencement was also posted on Metrolinx's website (<http://www.gotransit.com/electrification/en/>) and Hydro One's website (www.HydroOne.com/GORailElectrification).

¹⁶ Property ownership was based on available data from Teranet, which owns and operates the Ontario Electronic Land Registration System.

¹⁷ O. Reg. 231/08 requires the Notice to be sent to property owners within 30m of the study area, however Metrolinx opted to go beyond this requirement and provided the notice to property owners within 100m of the study area.

1.3.2 Online Engagement

1.3.2.1 Electrification Project Website

The Electrification website (<http://www.gotransit.com/electrification/en/>), was updated throughout the TPAP Phase with the following information:

- All project notices, including:
 - the combined advertisement for the Notice of Commencement and Public Meeting Round #3; and
 - The Hydrogen Fuel Cell Feasibility Study news release and summary;
- Complete sets of Public Open House Display Panels. These were posted for viewing and download throughout the Public Meeting sessions as an alternative way for interested persons who were not able to attend the meetings in person to view the material and submit questions or feedback to Metrolinx; and
- Roll Plans highlighting the corridors that electrification will occur on, as well as the locations where noise mitigation is technically feasible;
- All materials present at the Public Meetings, including:
 - Meeting agenda and feedback form;
 - Electrification EA Update; and
 - The meeting presentation slides;
- The Public Meeting Round Three Integrated Summary Report.
- The Draft EPR Appendices/Reports (Draft EPR Appendices A to U), as listed in Section 1.3.3.1.2
- A direct link to the Metrolinx Engage website. This was provided under the *Participate* section to give people the option to participate online.

1.3.3 Public Consultation

1.3.3.1 Public Meetings Round Three (June/July 2017)

A third round of public meetings was held immediately following the Notice of Commencement. The following section summarizes the consultation efforts undertaken by Metrolinx and Hydro One as part of the third round of public meetings as well as the types of feedback that was received and how it was considered by Metrolinx.

1.3.3.1.1 Notice of Public Meeting

Metrolinx, in coordination with Hydro One, hosted a third round of public meetings in June/July of 2017. In support of these meetings, Metrolinx posted a Notice of Public Meeting in order to inform stakeholders of the opportunity to participate in the Round 3 public meetings. This Notice was combined with the Notice of Commencement as a single notice during the dates indicated in **Table 1-63** for newspapers which had geographic coverage of the Project Study Area.

1.3.3.1.2 Posting of Draft EPR Appendices/Technical & Environmental Reports Online

Copies of the Draft EPR Appendix Reports containing several technical and environmental studies completed in support of the TPAP were posted online for public consumption on the Metrolinx Electrification website in June/ July of 2017, along with simplified summaries of the reports and the additional appendices to highlight the main components of the reports/studies. The publically posted Draft EPR Appendix reports are as follows:

- **Appendix A - Natural Environment Assessment Report:** is composed of two parts including *Part A1 - Natural Environment Baseline Conditions Report*, and *Part A2 - Natural Environment Impact Assessment Report*.
- **Appendix B – Preliminary Environmental Site Assessment (ESA) Reports - Preliminary ESA Gap Analysis Report – Rail Corridors**
- **Appendix C - Cultural Heritage Assessment Report:** is composed of two parts including *Part C1 – Cultural Heritage Screening Report*, and *Part C2 – Cultural Heritage Impact Assessment Report*.
- **Appendix D - Archaeological Assessment Report:** is composed of two parts including *Part D1 – Archeological Baseline Conditions Report*, and *Part D2 – Stage 1 Archaeological Assessment Report*.
- **Appendix E - Land Use and Socio-Economic Assessment Report:** is composed of two parts including *Part E1 – Land Use and Socio-Economic Baseline Conditions Report*, and *Part E2 – Land Use and Socio-Economic Impact Assessment Report*.
- **Appendix F - Air Quality Assessment Report:** is composed of two parts including *Part F1 – Air Quality Baseline Conditions Report*, and *Part F2 – Air Quality Impact Assessment Report*.
- **Appendix G - Noise and Vibration Modelling Reports:** is composed of six parts including *G1 – USRC Impact Assessment Report*, *G2 – LSW Impact Assessment Report*, *G3 – Kitchener Impact Assessment Report*, *G4 – Barrie Impact Assessment Report*, *G5 – Stouffville Impact Assessment Report*, *G6 – LSE Impact Assessment Report*
- **Appendix H - Visual Assessment Report:** is composed of two parts including *Part H1 – Visual Baseline Conditions Report*, and *Part H2 – Visual Impact Assessment Report*.
- **Appendix I - Utilities Report:** is composed of two parts including *Part I1 – Utilities Baseline Conditions Report*, and *Part I2 – Utilities Impact Assessment Report*.
- **Appendix J - Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report:** is composed of two parts including *Part J1 – EMI/EMF Baseline Conditions Report*, and *Part J2 – EMI/EMF Impact Assessment Report*.
- **Appendix K – Preliminary Stormwater Management Report (Traction Power Facility Sites):** summarizes the results of carrying out the preliminary Stormwater Management (SWM) Assessment for each of the Tap and Traction Power Facility sites; it is composed of: an overview of background data collected/reviewed, results of initial SWM analysis for each tap/traction power facility site, and recommendations for further work.

- **Appendix L - Consultation Record:** summarizes the consultation activities carried out by Metrolinx and Hydro One as part of the GO Rail Network Electrification TPAP including the various consultation events held, feedback/comments received from review agencies, Aboriginal Communities, and other stakeholders including members of the public, and how those comments were considered as part of the TPAP.
- **Appendix M – Cultural Heritage Evaluation Reports (CHERs) and Heritage Impact Assessment Reports:** includes copies of the CHERs and Heritage Impact Assessments carried out for various heritage properties as part of the GO Rail Network Electrification TPAP.
- **Appendix N - Conceptual electrification corridor plans.** Conceptual electrification corridor plans were developed to illustrate the Overhead Contact System (OCS) Impact Zone and Vegetation/Tree Removal Zone along each of the corridors to be electrified.
- **Appendix O - Conceptual Traction Power Facility Plans.** Conceptual Traction Power Facility Plans were developed to illustrate the Traction Power Facility sites and 25kV Feeder Routes.
- **Appendix P – P1: Mapping of Ecological Land Classification Areas and P2: Mapping of Terrestrial and Aquatic Features** along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix Q - Mapping of Potentially Affected Cultural Heritage Resources.** Mapping of Potentially Affected Cultural Heritage Resources along each rail corridor with the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix R - Mapping of Land Use Designations.** Mapping of Land Use designations along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix S - Mapping of Noise/Vibration Receptors and Recommended Locations for Noise/Vibration Mitigation.** Mapping of Noise and Vibration Receptors that were examined in the Noise and Vibration modelling study, as well as areas where noise and vibration mitigation locations were identified along each rail corridor within the GO Rail Network Electrification Study Area have been included reference.
- **Appendix T - Mapping of Viewsheds and Potential Visual Impact Areas.** Mapping of viewsheds and potential visual impact areas along each rail corridor within the GO Rail Network Electrification Study Area have been included for reference.
- **Appendix U – List of Technical Reports and Studies Reviewed.** Contains a list of the various technical reports/studies that were reviewed as part of carrying out the TPAP.

1.3.3.1.3 Public Meetings Overview and Locations

The intent of the Round 3 TPAP Phase public meetings was to: provide an overview of the TPAP, update project timelines, advise on the progress of the EA studies, overview of electrification infrastructure requirements; address any preliminary comments; and obtain feedback that could be used to improve project implementation. These public meetings provided additional focused content on noise/vibration impacts and mitigation as well as tree/vegetation removal (which were key public concerns raised at the previously held Public Meetings Round #1 and #2 sessions). The northern most meeting also provided an

opportunity to consult on the revised preferred location of the Allandale Tap site (location revised after the round two public meetings). The public meetings were held in June/July of 2017 to allow for the inclusion of comments before finalization of the EPR.

Four (4) public meetings were held at various locations throughout the network between June 26 and July 5, 2017. The format of the public meeting included a 30 minute open house, featuring roll plans detailing locations of noise mitigation to be considered as well as display boards detailing general electrification information, a 30 minute presentation on the electrification project, followed by a question and answer period.

Locations for public meetings were chosen to provide opportunity for individuals across a wide geographic area to participate in the meetings. All 4 public meeting venues were accessible.

Table 1-64 provides a summary of when and where the public meetings took place. Copies of the newspaper advertisement for the third round of public meetings are included in **Appendix L-2**, and copies of the public meeting notifications, are in **Appendix L-3**.

Table 1-64: Public Meeting Round Three Locations & Dates

Meeting #	Date	Time	Location	Address
1	June 26, 2017	6:30-8:30 pm	Clarke Memorial Hall	161 Lakeshore Rd W, Mississauga ON
2	June 28, 2017	6:30-8:30 pm	Ajax Community Centre	75 Centennial Rd, Ajax ON
3	June 29, 2017	6:30-8:30 pm	Metro Hall	55 John St, Toronto ON
4	July 5, 2017	6:30-8:30 pm	Newmarket Community Centre	200 Doug Duncan Dr, Newmarket ON

The meetings provided the public an opportunity to review display boards and meet with staff one on one to discuss the project. The display boards were posted and staffed for the duration of the event. Comment sheets (see **Appendix L-6**) were provided to all attendees as a mechanism for submitting comments and feedback on the project and a summary report was prepared to document the sessions (see **Appendix L-6**). This report outlined how stakeholders were engaged prior to and during meetings, how and what content was presented, meeting attendance, and the types of feedback that were received.

Display boards were presented covering the following content:

- A. What We've Done – Electrification ;
- B. Benefits of Electrification;
- C. Electrification Project Scope;

- D. Hydro One Power Supply;
- E. Traction Power Supply and Distribution;
- F. Overhead Contact System (OCS);
- G. EMI/EMF Impacts;
- H. Bridge Modifications;
- I. Timelines/Next Steps;
- J. Allandale Tap/TPS;
- K. Noise and Vibration Assessment;
- L. Potentially Impacted Heritage Properties;
- M. Cultural Heritage;
- N. Archaeology;
- O. Electrification Infrastructure per Corridor;

Printed copies of the panels were made available to meeting attendees upon request and were made available online at the Electrification website and Metrolinx Engage. A copy of the Public Meeting Display Panels is provided in **Appendix L-6**.

1.3.3.1.4 Electrification EA Update

Hard copies of the Electrification EA Update were handed out to meeting participants to help provide them with an easily referenceable summary of important information related to the Electrification EA. The Electrification EA Update primarily focused on providing information about impacts that are relevant to the public, such as vegetation removal and bridge replacements, as well as mitigation efforts for visual, noise, and vibration impacts. A brief summary of previously held meetings as well as a description of the project timeline was also provided. A copy of the Electrification EA Update can be found in **Appendix L-6**.

In addition, hard copies of the Integrated Feedback Summary Report, summarizing the public feedback received during the second round of public meetings (November 2016) were made available.

1.3.3.1.5 Roll Plans

Conceptual roll plans were developed and displayed at each public meeting session providing mapping of each corridor to be electrified, information presented on the roll plans included the location of the Traction Power Facility sites, OCS Impact Zones, Vegetation/Tree Removal Zones, Noise Mitigation Locations for Consideration and Vibration Mitigation Locations for Consideration.

1.3.3.1.6 Summary of Public Comments Received

Prior to and during the Consultation Round 3 (June 14, 2017 – October 11, 2017), comments were received via a variety of communication channels: phone calls, e-mails, letters, comment forms, and via the Public

Meeting interactive sessions. When a comment was provided via phone call, the comment was logged and a response was later provided via email or call back.

The comment period for the Round 3 TPAP Phase public meetings was between June 14, 2017 and July 14th, 2017. A total of 88 Electrification related emails and letters were received through the Electrification e-mail during the Round 3 comment period.

A total of 26 comment forms were submitted as part of the Round 3 TPAP Phase Public Meetings. When a meeting attendee had a verbal comment, staff provided them with a comment form and encouraged them to write down their comments so that it could be formally addressed. Copies of the completed comment forms are included in **Appendix L-6**.

Some of the feedback received was related to topics that were outside the scope of the Electrification Project, many of which were more related to track expansion work defined under Metrolinx's RER Program, new GO stations, and increased service levels. Generally speaking, the key themes of the comments/feedback received included, but were not limited to the topics listed below. These have been categorized into "Related to Electrification TPAP Scope" and "Other Comments".

Related to Electrification TPAP:

- Timing of electrification implementation;
- Phasing plan;
- Visual effects of new electrification infrastructure;
- Effect on adjacent properties and corresponding property values;
- Cost/funding of electrification;
- EMI/EMF related concerns;
- Why certain corridors were not considered for electrification;
- Potential construction related nuisance effects along the corridor (e.g., noise);
- Overhead contact system vs. third rail;
- Inquiring about impacts on the existing power grid;
- Inquires related to EA process and timelines;
- What type of electric train will be used;
- What type of safety/security measures will be implemented to protect the public from electrification infrastructure;
- What are the benefits of electric trains vs. diesel trains;
- How diesel and freight services will operate on electrified tracks;
- General support for electrification;
- Noise and vibration impacts and mitigation measures;

- Tree and vegetation removal impacts and compensation; and
- Hydrogen technology and proposed feasibility study

Other Comments (not related to Electrification TPAP scope):

- Locations for track expansion on Lakeshore East Corridor;
- Locations for track expansion on Lakeshore West Corridor;
- Locations for track expansion on Barrie Corridor;
- Comments about other ongoing Metrolinx construction projects;
- Vibration levels associated with existing service;
- Increased service (number of trains) along rail corridors;
- Concerns related to noise from increased train service and whistling;
- When/where new GO station will be implemented;
- Inquiries about noise mitigation (i.e. barriers) for increased service levels;
- Work on at grade road-rail crossings; and
- General transit improvements (GO Bus, Smart Track, TTC, VIA etc.)

Overall, positive feedback for the Electrification Project consisted of general consensus that transitioning from a diesel operated fleet to one that operates on electricity will be an improvement. In addition, other types of feedback/comments related to location specific impacts to residents living directly adjacent to the corridors who expressed concerns over construction noise, noise mitigation and queries related to Metrolinx's property acquisition process. **Table 1-65** summarizes the key issues/comments/questions related to electrification that were raised by members of the public during the TPAP phase, including those submitted as part of the third round of Public Meetings, and how they were considered by Metrolinx. Copies of public correspondence received can be found in **Appendix L-7**.

Figure 9: June 29, 2017, Public Meeting in Toronto



Figure 10: July 5, 2017, Public Meeting in Newmarket



Media Requests

On June 29, 2017 a media request was received from a representative at the Oshawa Express newspaper requesting to speak to Metrolinx about the ongoing public consultation efforts for Electrification within

Durham Region. A phone interview was conducted on June 30, 2017. Topics of discussion included the budget for Electrification, impacts to residents along the Lakeshore East corridor including noise and vibration impacts and vegetation removal requirements, project timeline, and relation between the Electrification project to the extension of the Lakeshore east line to Bowmanville.

Table 1-65: Summary of TPAP Phase Public Comments Received (June 14 2017 – October 11 2017)

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
EA PROCESS, PROJECT SCOPE AND ENVIRONMENTAL QUESTIONS/COMMENTS				
1	Via Email	PIC Notifications	As the Notice of Commencement for electrification has been launched, will the GO Rail Network Electrification page be updated?	As you mentioned the GO Rail Network Electrification TPAP Notice of Commencement (dated June 14, 2017) has been posted on the project website along with the dates and times for the upcoming third round of public meetings.
2	Round 3 PIC (Newmarket) / Via Email	PIC Notifications	Communication is poor, the Notice of the Public Meetings arrived in my mail box the day of the meeting.	<p>We sincerely apologise for the delay in delivery of the Notice of Commencement and Public Meetings mailer.</p> <p>All of the meeting materials including the presentation, display panels, hand-outs, corridor roll plans, and draft technical reports are also posted at gotransit.com/electrification. If you have any questions or concerns, we are more than happy to speak to you on the phone. Please contact us at electrification@metrolinx.com</p> <p>The June/July public meetings are not the final opportunity to provide your feedback on the proposed plans for Electrification. You may submit your questions or comments via email to: electrification@metrolinx.com at any time. In addition, there will be a final 30-day public review period once the Environmental Project Report is filed with the Ministry of Environment and Climate Change, and posted publically at gotransit.com/electrification for comment.</p> <p>Your comments will be shared with the project team and will be incorporated into a summary of input and advice received. Stay tuned for the online posting of the summary report at www.gotransit.com/electrification.</p>
3	Via Email	PIC Notifications	Better ads might be needed, such as on bus shelters and at grocery stores.	Thanks for your thoughts on how we can better get the message out on using transit to get around.
4	Via Email	PIC Venues/Selection	Monday June 26 is not a convenient date to hold a public meeting in Clarke Hall. The Planning & Development Committee is hosting a meetings, I expect that members of several local associates will choose to attend that meeting. Can the Metrolinx meeting be delayed?	We appreciate that the June 26th date is in conflict with another meeting in the area. However, we cannot reschedule the date as it has already been promoted. Not to worry if you and others cannot attend our meeting. All of the meeting materials will be posted at gotransit.com/electrification . If you have any questions or require further clarification, we are more than happy to speak to you.
5	Via Email	PIC Venues/Selection	Can a public meeting be held in southeast Scarborough?	Although there are no plans to host a public meeting in Scarborough as part of the upcoming third round of public engagement, please note that Metrolinx hosted two public meetings previously in Scarborough on February 16th, 2016 during the first round of public engagement and on November 28th, 2016 during the second round of public engagement. All of the meeting materials will be posted at gotransit.com/electrification .
6	Via Email	PIC Venues/Selection	Why were no meetings held in the Barrie/Bradford area?	<p>This current round of public engagement for the GO Rail Network Electrification Transit Project Assessment Process is in the third round of public meetings. The previous two rounds of public meetings included two meetings in Barrie, one in Innisfil for a total of 28 meetings across the region. This time around, we strategically located meetings in the north, the east, south and west to provide a further opportunity for community members to drop by to ask any further questions. Unfortunately, we were unable to have meetings in all of the locations that we have previously visited.</p> <p>All of the public meeting material will be available at gotransit.com/electrification and any questions can be sent to electrification@metrolinx.com. If you would like to speak to someone directly, we are more than happy to schedule a call to discuss any questions you may have.</p>
7	Via Email	EA Process	Public meetings are a waste of time and money.	Electrified power is a proven technology and used around the world to power commuter rail services. We certainly aren't wasting time and money to complete the current electrification TPAP.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				In comparison to Europe and Asia, North America does not have a well-established electrified network of commuter rail services. The ongoing electrification TPAP is required to assess any environmental impacts and propose mitigation to ensure that the planned electrification infrastructure does not unduly impact the surrounding environment. Consultation with Review Agencies, First Nations communities, the public, and other stakeholders is a part of this process.
	Via Email	Project Scope – Lakeshore West Corridor	How will Hamilton trains work?	At this time, Metrolinx is only proposing to electrify Metrolinx-owned corridors. The portion of the Lakeshore West Corridor, west of Burlington is owned by Canadian National Railway (CN). Further discussions with CN are required before electrified service beyond Burlington can be implemented. It is not anticipated that these issues will be resolved within the timeframe of the TPAP.
8	Via Email	Project Scope – Kitchener Corridor	The “Kitchener” corridor appears to terminate in Peel Region.	<p>In 2014, Metrolinx completed an environmental assessment to electrify the UP Express service from Union Station to Pearson Airport. The current GO Rail Network Electrification TPAP picks up where the previous study left off by assessing electrifying the rail corridor along the Kitchener Corridor from the UP Express Spur (at Highway 427) to Bramalea. The portion of the Kitchener Corridor, from Bramalea GO Station to west of Georgetown, is currently owned by Canadian National Railway (CN).</p> <p>In June 2016 Metrolinx announced an expansion of GO service to Waterloo Region. An agreement-in-principle has been reached with CN, part of which is for the planning and technical analysis to build a new freight corridor that will allow CN to shift most of its freight traffic from the section of the Kitchener corridor the company owns to the new corridor. That will free up capacity for more GO service through Brampton to Kitchener. You can view the full details of this announcement here:</p> <p>https://news.ontario.ca/opo/en/2016/06/ontario-expanding-go-rail-service-to-waterloo-region.html</p> <p>At this time, Metrolinx is only proposing to electrify Metrolinx-owned corridors. Further discussions and negotiations with CN are required before electrified service beyond Bramalea is feasible.</p>
9	Round 3 PIC (Newmarket)	Project Scope	Does the Electrification study address meeting the transportation needs of future populated areas around major hubs along the corridor?	<p>The GO Regional Express Rail Initial Business Case (2015) provides an overview of the RER program, demonstrating how expanding and electrifying the GO rail network has the potential to greatly enhance the quality of life for GTHA residents by significantly boosting mobility and strengthening the regional economy. Strong evidence is documented that the RER program would benefit the region, including:</p> <ul style="list-style-type: none">• The program as a whole generates benefits over costs of over 3:1, meaning for every dollar the program would cost, it would generate three dollars in economic benefits.• By 2029, it is forecast that ridership would grow to approximately 127 million customers, representing a 142% increase in ridership from 2014.• New services would be provided throughout the weekday, evenings and weekends, leading to substantial increases in ridership in the off-peak periods, augmenting already significant ridership in the peak periods. <p>These outcomes and others contained in the Initial Business Case provide the evidence and rationale to proceed with the RER program, estimating the total benefits of our 10-year plan, including time savings to transit riders and motorists on less congested highways, are worth \$33 billion with net benefits of \$23 billion.</p> <p>Electrification is a critical component of RER by providing faster service, lower operating costs and a greener environment. Currently, GO operates most rail services with 10- or 12-car trains powered by diesel locomotives. This is an efficient way to move large numbers of commuters during rush hour, but diesel</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>locomotives are not able to accelerate as quickly as electric alternatives, limiting their ability to travel at top speeds for longer periods.</p> <p>Journey times can be reduced with electric traction, depending on route, stopping pattern and equipment, as well as technology and equipment improvements that RER will facilitate.</p> <p>A shift toward more electrified service will lead to a reduction in greenhouse gas emissions, from the conversion of the trains themselves, from the resulting higher ridership and reduced car use in the region, and from the benefits resulting from the urban region growing in a way that is aligned with the significantly improved rail system</p> <p>The full Business Case is available at: http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_EN.pdf</p>
10	Via Email	Electrification Benefits and Impacts	I live near the railroad tracks, what are the impacts of all the future plans on my neighbourhood?	<p>We are currently completing an environmental assessment (Transit Project Assessment Process) to evaluate the impacts from new electrification infrastructure. The electrified GO Transit Network will be a 2 x 25 kV AC (alternating current) autotransformer fed electrification system which will be connected directly to a high voltage system. Traction Power Substations (TPS) located in proximity to the rail corridors will transform the utility supply voltage of 230 kV to 2 x 25 kV for distribution to the electric trains via the Overhead Contact System (OCS). The Overhead Contact System (OCS) is a series of overhead wires which supply electricity to the electric trains. Power is supplied to the train through the pantograph which makes contact with the OCS. The OCS is supported by portal/cantilever structures.</p> <p>The distribution system will also include: traction power facilities located in proximity to the rail corridors, gantry structures which provide power to the OCS, and 25kV feeder routes for power distribution. There are no traction power facilities or feeder routes proposed near your location.</p> <p>Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors.</p>
11	Round 3 PIC (Ajax)	Electrification Benefits and Impacts	This is my first meeting. Could you please explain why you are making changes to the current system? Why are you electrifying?	<p>There are several benefits of electrification. These include lower emissions, improved air quality, quicker travel times and train acceleration, and reduced train maintenance requirements. The OCS would still require maintenance but the trains would require less maintenance than the diesel trains.</p>
12	Round 3 PIC (Ajax)	Increased Service Level	I am pleased to see that Metrolinx is considering electrification. Right now, Toronto to Whitby takes 15 minutes. How much faster will the train be?	<p>As part of the RER business case, work was done to determine the decreased travel time. You can view the business case by visiting: http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_Summary_EN.pdf</p>
13	Round 3 PIC (Ajax)	Electrification Benefits and Impacts	Currently CP, CN and VIA rail lines run through the LSE area. Would Electrification or High Speed Rail impact trains like VIA which run express to Montreal?	<p>VIA runs in the same corridors as GO. The timetable of VIA and new increased service would have to be worked out. VIA will run under the wires but details are being worked out with these stakeholders. This kind of agreement with electrification is common in other countries.</p>
14	Round 3 PIC (Ajax)	Bidding Process and Financing	I assume an electrification RFP will go for bid with 50% design and build. What is the timeline between issuing the RFP to completing construction to being able to use the infrastructure?	<p>Metrolinx is considering an AFP model (not Design/Build). Metrolinx is planning for 2025 revenue service system to be phased in by corridor, as it is not feasible to do all corridors at once. The RFP will go out some time in 2018. The AFP process takes more time to make the design decisions and get to the constructions phase.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
15	Round 3 PIC (Mississauga)	Noise and Vibration	I live in Mimico. I understand that the noise and vibration protocol is based on residential homes being a certain distance from the tracks themselves. How does the noise and vibration assessment work?	The consultant team identifies sensitive receptors like residential homes that are within 1.5 m of the tracks, measuring from the rear window. If noise increases by 5 dB, it triggers the need to investigate noise mitigation
16	Round 3 PIC (Mississauga)	Noise and Vibration	You said that noise is not a concern for Metrolinx where power stations are in industrial zones. How can you guarantee these areas will not be residential in the future?	Many of these substations are adjacent to Hydro One substations, which would not warrant mitigation. If there is an existing facility and a new residential neighbourhood is proposed, the developer would usually be required to implement noise mitigation.
17	Round 3 PIC (Mississauga)	Noise and Vibration	Are there any studies on noise bounce back in places where noise walls are on both sides versus on one side of the corridor? We are finding that having a noise wall on one side of the corridor creates more noise for us on the opposite side of the corridor than not having one at all.	If there are sensitive receptors on both sides of the track that will experience a 5 dB increase in noise, then both sides would get the noise wall. There is the potential for noise bounce back if noise walls are not made with absorptive materials.
18	Round 3 PIC (Mississauga)	Noise and Vibration	Does Metrolinx plan to use the baffled/egg carton / honeycomb design for the noise walls? Are these designs more expensive?	The type of noise walls have not yet been determined, and whether they are more expensive is unknown. However, the design of noise walls can often be based on community input. On Lakeshore West, there are no planned noise walls. The investigation of noise mitigation is required when noise is expected to increase by 5 dB or more. On Lakeshore West, the existing noise compared to the future noise results in less than a 5 dB increase, no noise mitigation is required.
19	Via Email	Noise and Vibration	The Cross Rail project in London has several locations where noise dampening rails are used, will noise dampening rails be used in this project?	<p>The Environmental Assessment will not define what the noise mitigation measures will be, but Metrolinx is thinking ahead to what options will best meet community’s needs. Noise walls are typically the most effective at reducing noise, and they also take up much less space than a berm. There are also other technologies that work to reduce the noise generated by the wheels on the rails – like rail dampeners and resilient wheels – that may also be feasible.</p> <p>This EA process will identify areas where noise mitigation will be considered as well as options for mitigating noise. The next steps that Metrolinx will follow in identifying what type of noise mitigation will be implemented and where, include:</p> <ol style="list-style-type: none">1. Further analysis of the noise mitigation options will be undertaken during detailed design to establish what types of mitigation will be implemented and where. This will include further consideration of the administrative, operational, economic and technical feasibility as per the Protocol.2. Metrolinx will carry out additional public engagement on proposed noise mitigation solutions once detailed design has progressed and updated analysis results are available.
20	Via Email	Noise and Vibration	Will the noise barriers identified on the roll plans be located on our property or within the rail corridor? Does Metrolinx have sufficient right-of-way to implement the proposed improvements?	The exact location and length of the noise mitigation has not been determined. This will be reviewed further during detailed design to identify the exact length of the noise mitigation in your area. We will keep you updated throughout the process. We are still finalizing the requirements for electrification but we do not anticipate we will need additional property. We will notify you if things change.
21	Via Email	Noise and Vibration	Does Metrolinx plan to increase tree barrier to create natural noise abatement in the area just east of Rouge Hill GO station?	A vegetation clearance zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on either side of each rail corridor. New trees/shrubs cannot be planted within the established vegetation clearing zone. Vegetation clearing is required to:

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue; and,Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment. <p>Vegetation does not reduce noise enough to meet the noise mitigation requirements identified above. In addition, trees as noise barriers are not very effective because there are too many gaps to block the sound. Other benefits of vegetation will be considered in vegetation compensation plans.</p>
22	Via Email	Noise and Vibration	Will there be a noise wall/safety barrier built at my property?	<p>The Noise and Vibration Impact Assessment as part of the GO Rail Network Electrification TPAP assessed how noise and vibration levels will change as a result of the conversion of GO Transit’s current service levels to the future increased service levels of the electric powered Regional Express Rail (RER) service. As per the MOEE/GO Transit Protocol for Noise and Vibration Assessment, noise impacts from the future GO Transit rail traffic were expressed in terms of Adjusted Noise Impact, which is based on the difference between the pre-project and post-project noise levels. Areas that were assessed to have a 5 dB or greater increase in noise requires noise mitigation to be investigated.</p> <p>At your location, the predicted noise increase is below the threshold of 5 dB and thus does not require noise mitigation to be investigated. To see where noise and vibration mitigation measures are proposed, please visit http://www.gotransit.com/electrification/ and examine the roll plan for your corridor.</p>
23	Round 3 PIC (Toronto)	Noise and Vibration	Will there be noise walls on the south side of the bridge spanning Greenwood Avenue? Will there be noise walls on the bridge? Can the walls added to this bridge be made of a clear material?	<p>The objective of the Noise study completed as part of the TPAP was to assess the effects on noise levels due to the conversion from existing/present day (2015) diesel-based GO service levels (referred to as the Future No-Build scenario) to the Electric (2025) GO RER electric-based service levels (referred to as the Future Build Scenario), and to subsequently determine whether mitigation measures may be required to address adverse noise effects. The scope of the study examined noise effects due to electric RER GO service along the rail corridors as well as noise effects related to the proposed Tap locations and Traction Power Facilities.</p> <p>The existing and Electric RER noise levels were modelled for the entire Study Area and documented in Noise and Vibration Modeling Reports for each rail corridor. Mitigation measures were investigated for all receptors with a Significant Adjusted Noise Impact (i.e., between 5 and 9.99 dB increase) in accordance with the MOEE/GO Protocol.</p> <p>Noise barriers are considered technically feasible if they achieve at least a 5 dB reduction in sound levels at nearby receptors. Details regarding the modelling assessment, proposed noise barrier locations, length of barrier, side of rail ROW, approximate number of receptors shielded by barrier, etc. will be presented in the Noise and Vibration Assessment Reports which will be made available for public review upon issuance of the Notice of Completion for the TPAP.</p> <p>For all locations where there will be a change in noise levels of 5dB or more and where noise barrier locations deemed either technically and non-technically feasible (as part of the study carried out for the TPAP), Metrolinx will undertake more detailed analysis during Detailed Design to assess technical, economic, administrative and operational feasibility as per the MOECC Protocol to finalize the type and locations of noise mitigation along the rail corridors. In addition, Metrolinx will investigate other forms of noise mitigation such as train technology, rail dampeners etc. during Detailed Design to assess feasibility. The MOEE/GO Protocol provides the following mitigation guidance with respect to noise mitigation measures:</p> <ul style="list-style-type: none">Mitigation should be implemented where technically feasible. At the Detailed Design phase, other considerations, such as engineering and economic feasibility should be evaluated.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the rail service objective. <p>The closest noise receptor to Greenwood Avenue and Walpole Avenue was assessed on the south side of the rail corridor, north on Walpole Avenue between Greenwood Avenue and Highfield Road. The Adjusted Noise Impacts at this receptor location were found not to be significant (i.e., the predicted noise increase was not above 5 dB) and thus did not trigger the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. As such no noise mitigation was identified at this location.</p> <p>Metrolinx will continue to consult with the public during Detailed Design with respect to further assessment and implementation of noise mitigation along the rail corridors.</p> <p>The final type and design of noise mitigation will be determined during detailed design.</p>
24	Round 3 PIC (Toronto)	Noise and Vibration	Request noise walls be built along the Lakeshore East Corridor near Monarch Park, noise will affect the use of the park and gardens.	<p>The objective of the Noise study completed as part of the TPAP was to assess the effects on noise levels due to the conversion from existing/present day (2015) diesel-based GO service levels (referred to as the Future No-Build scenario) to the Electric (2025) GO RER electric-based service levels (referred to as the Future Build Scenario), and to subsequently determine whether mitigation measures may be required to address adverse noise effects. The scope of the study examined noise effects due to electric RER GO service along the rail corridors as well as noise effects related to the proposed Tap locations and Traction Power Facilities.</p> <p>The existing and Electric RER noise levels were modelled for the entire Study Area and documented in Noise and Vibration Modeling Reports for each rail corridor. Mitigation measures were investigated for all receptors with a Significant Adjusted Noise Impact (i.e., between 5 and 9.99 dB increase) in accordance with the MOEE/GO Protocol.</p> <p>Noise barriers are considered technically feasible if they achieve at least a 5 dB reduction in sound levels at nearby receptors. Details regarding the modelling assessment, proposed noise barrier locations, length of barrier, side of rail ROW, approximate number of receptors shielded by barrier, etc. will be presented in the Noise and Vibration Assessment Reports which will be made available for public review upon issuance of the Notice of Completion for the TPAP.</p> <p>For all locations where there will be a change in noise levels of 5dB or more and where noise barrier locations deemed either technically and non-technically feasible (as part of the study carried out for the TPAP), Metrolinx will undertake more detailed analysis during Detailed Design to assess technical, economic, administrative and operational feasibility as per the MOECC Protocol to finalize the type and locations of noise mitigation along the rail corridors. In addition, Metrolinx will investigate other forms of noise mitigation such as train technology, rail dampeners etc. during Detailed Design to assess feasibility. The MOEE/GO Protocol provides the following mitigation guidance with respect to noise mitigation measures:</p> <ul style="list-style-type: none">Mitigation should be implemented where technically feasible. At the Detailed Design phase, other considerations, such as engineering and economic feasibility should be evaluated.If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the rail service objective.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>The closest noise receptors to Monarch Park were assessed north of the park on Felstead Avenue and east of Monarch Park on Sandstone Lane. The Adjusted Noise Impacts at the receptor east of Monarch Pak shows an increase in noise above 5 dB which triggers the need to investigate for noise mitigation as per the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol. Assessment of a noise wall from Greenwood Avenue to east of Valifor Place (spanning a portion of the southern end of Monarch Park) was deemed technically feasible. Please note that the exact location and length of the noise mitigation has not been determined. This will be reviewed further during detailed design to identify the exact length of the noise mitigation in your area.</p> <p>Metrolinx will continue to consult with the public during Detailed Design with respect to further assessment and implementation of noise mitigation along the rail corridors.</p>
25	Round 3 PIC (Toronto)	Noise and Vibration	Will there be vibration mitigation along the Lakeshore East Corridor east of Greenwood Avenue? Concern that additional vibration will damage property.	<p>As part of the Noise and Vibration Modelling Reports completed as part of the TPAP, potential vibration mitigation was identified from east of Greenwood Avenue to east of Valifor Place. The recommended vibration mitigation is identified as ballast mats though consideration of other mitigation options, such as under sleeper pads or resilient fixation will be assessed further at the detailed design stage.</p> <p>In addition, the following mitigation measures will be adhered to during construction activities:</p> <ul style="list-style-type: none">• Metrolinx Community Relations staff will communicate construction work and respond to inquiries from residents and businesses;• A proactive communications protocol is recommended that would advise residents in advance of nighttime construction.• When possible, construction should be limited to the time periods allowed by the locally applicable bylaws (generally during the daytime hours and during weekdays). Certain type of construction work can only be completed when trains are not in service (i.e., outside of business hours). Although provincial agencies such as Metrolinx and Hydro One are not subject to municipal bylaws, Metrolinx (and it’s Contractor) will endeavour to adhere to these local bylaws as a best practice, where practical. As part of the electrification construction activities, nighttime work may be required. Although Metrolinx is exempt from municipal noise control by-laws that place limits on the timing of construction activity, Metrolinx (and their Contractor) will strive to adhere to such bylaws by limiting nighttime noisy activities wherever practical.• All equipment should be properly maintained to limit noise emissions. As such, all construction equipment should be operated with effective muffling devices that are in good working order. All construction equipment should be verified to comply with MOE NPC-115 guidelines;• Trains passing construction zones may be required to use bells and/or whistles to warn construction personnel for safety reasons. This should be minimized as much as practical while ensuring the safety of everyone involved;• Construction equipment has safety features such as backup alarms while backing up (beeping sound). This is for the protection and safety of the workers, and is legally required. Consideration should be given to the use of broadband rather than tonal backup beepers;

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">• A more detailed vibration assessment of construction be completed when the specifics of construction equipment are finalized prior to the commencement of construction. This assessment should consider minimizing construction vibration levels, while balancing construction schedules and expediting construction activity;• Consideration should be given to monitoring of vibration during vibration intensive activities, to confirm that levels do not approach those required for structural damage;• In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration should be given to the technical, administrative and economic feasibility of the various alternatives;• To minimize potential annoyance with construction vibration, it is recommended that minimum setback distances be maintained from nearby residences during construction activities with a significant potential to produce vibrations (such as jackhammer, large bulldozer and vibratory roller). This will ensure that nearby residences experience vibration levels of less than 0.4 mm/s, the threshold of vibration annoyance based on the US Federal Transit Administration (FTA); and• Damages to building may result when these activities occur within 15 m. It is recommended that a 15 m setback distance between the construction vibration source and nearby buildings be implemented where possible. If not possible, then the vibration levels associated with the activity should be monitored.
26	Round 3 PIC (Toronto)	Noise and Vibration	Why is there no plan for a noise wall between Coxwell and Woodbine?	<p>The objective of the Noise study completed as part of the TPAP was to assess the effects on noise levels due to the conversion from existing/present day (2015) diesel-based GO service levels (referred to as the Future No-Build scenario) to the Electric (2025) GO RER electric-based service levels (referred to as the Future Build Scenario), and to subsequently determine whether mitigation measures may be required to address adverse noise effects. The scope of the study examined noise effects due to electric RER GO service along the rail corridors as well as noise effects related to the proposed Tap locations and Traction Power Facilities.</p> <p>The existing and Electric RER noise levels were modelled for the entire Study Area and documented in Noise and Vibration Modeling Reports for each rail corridor. Mitigation measures were investigated for all receptors with a Significant Adjusted Noise Impact (i.e., between 5 and 9.99 dB increase) in accordance with the MOEE/GO Protocol.</p> <p>Noise barriers are considered technically feasible if they achieve at least a 5 dB reduction in sound levels at nearby receptors. Details regarding the modelling assessment, proposed noise barrier locations, length of barrier, side of rail ROW, approximate number of receptors shielded by barrier, etc. will be presented in the Noise and Vibration Assessment Reports which will be made available for public review upon issuance of the Notice of Completion for the TPAP.</p> <p>For all locations where there will be a change in noise levels of 5dB or more and where noise barrier locations deemed either technically and non-technically feasible (as part of the study carried out for the TPAP), Metrolinx will undertake more detailed analysis during Detailed Design to assess technical, economic, administrative and operational feasibility as per the MOECC Protocol to finalize the type and locations of noise mitigation along the rail corridors. In addition, Metrolinx will investigate other forms of noise mitigation such</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>as train technology, rail dampeners etc. during Detailed Design to assess feasibility. The MOEE/GO Protocol provides the following mitigation guidance with respect to noise mitigation measures:</p> <ul style="list-style-type: none">• Mitigation should be implemented where technically feasible. At the Detailed Design phase, other considerations, such as engineering and economic feasibility should be evaluated.• If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the rail service objective. <p>Three noise receptors were assessed north of the rail corridor between Coxwell Avenue and Woodbine Avenue. The Adjusted Noise Impacts at all three receptors shows an increase in noise above 5 dB which triggers the need to investigate for noise mitigation as per the GO Transit/Ministry of the Environment and Climate Change (MOECC) Noise and Vibration Protocol.</p> <p>Assessment of a noise wall between Coxwell Avenue and Woodbine Avenue on the north side of the rail corridor was deemed technically feasible.</p> <p>In addition a two noise receptors were assessed south of the rail corridor between Coxwell Avenue and Woodbine Avenue. The Adjusted Noise Impacts at both receptor locations were found not to be significant (i.e., the predicted noise increase was not above 5 dB) and thus did not trigger the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation.</p> <p>However, as part of Public Meeting Round #3, a proposed noise barrier was previously presented on the on the south side of the rail corridor between Ladykirk Avenue and Woodbine Avenue. http://www.gotransit.com/electrification/en/Mx%20Electrification_LSE_Noise_Mitigation_Barrier_Map_7June17.pdf. As such, this proposed noise mitigation location has been retained even though the future noise level was predicted to be not significant.</p> <p>Please note that the exact location and length of the noise mitigation will need to be determined during detailed design. Specifically, Metrolinx will undertake more detailed analysis to further assess technical, economic, administrative and operational feasibility of noise mitigation measures at this location in accordance with the GO/MOECC Protocol as part of finalizing the type and exact locations of noise mitigation along the rail corridors. In addition, Metrolinx will investigate other forms of noise mitigation such as train technology, rail dampeners etc. to assess feasibility.</p>
27	Round 3 PIC (Mississauga)	Noise and Vibration	What is the difference between the current system and proposed system in terms of noise and vibration?	<p>Recognizing that electrification of the GO network is a component of the over-arching Regional Express Rail plan, a comprehensive noise study was undertaken to examine the noise effects of the conversion to increased electric service as part of the GO Rail Network Electrification TPAP.</p> <p>The objective of the Noise study was to assess the effects on noise levels due to the conversion from existing/present day (2015) diesel-based GO service levels (referred to as the Future No-Build scenario) to the Electric (2025) GO RER electric-based service levels (referred to as the Future Build Scenario), and to subsequently determine whether mitigation measures may be required to address adverse noise effects. The</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>scope of the study examined noise effects due to electric RER GO service along the rail corridors as well as noise effects related to the proposed Tap locations and Traction Power Facilities.</p> <p>The existing and Electric RER noise levels were modelled for the entire Study Area and documented in Noise and Vibration Modeling Reports for each rail corridor. Mitigation measures were investigated for all receptors with a Significant Adjusted Noise Impact (i.e., between 5 and 9.99 dB increase) in accordance with the MOEE/GO Protocol.</p> <p>Noise barriers are considered technically feasible if they achieve at least a 5 dB reduction in sound levels at nearby receptors. Details regarding the modelling assessment, proposed noise barrier locations, length of barrier, side of rail ROW, approximate number of receptors shielded by barrier, etc. will be presented in the Noise and Vibration Assessment Reports which will be made available for public review upon issuance of the Notice of Completion for the TPAP.</p> <p>For all locations where there will be a change in noise levels of 5dB or more and where noise barrier locations deemed either technically and non-technically feasible (as part of the study carried out for the TPAP), Metrolinx will undertake more detailed analysis during Detailed Design to assess technical, economic, administrative and operational feasibility as per the MOECC Protocol to finalize the type and locations of noise mitigation along the rail corridors. In addition, Metrolinx will investigate other forms of noise mitigation such as train technology, rail dampeners etc. during Detailed Design to assess feasibility. The MOEE/GO Protocol provides the following mitigation guidance with respect to noise mitigation measures:</p> <ul style="list-style-type: none">• Mitigation should be implemented where technically feasible. At the Detailed Design phase, other considerations, such as engineering and economic feasibility should be evaluated.• If deemed feasible, the mitigation measures shall ensure that the predicted sound level from the GO Transit rail project is as close to, or lower than, the rail service objective. <p>Metrolinx will continue to consult with the public during Detailed Design with respect to further assessment and implementation of noise mitigation along the rail corridors.</p> <p>It is also noted that the preliminary results of the Noise and Vibration studies were made available to the public at Public Meeting #2 and #3 – please refer to the website for further details http://www.gotransit.com/electrification/en/.</p>
28	Via Email	Noise and Vibration	<p>I have a concern about assumptions made in the EA. Under section 2.2 titled key assumptions it states “Therefore, the proposed infrastructure and service levels represent a credible worst-case scenario.” In appendix B titled list of assumptions, the following assumption is made, “Based on non-revenue information that we were provided, we assumed that AM rush occurs before 7 AM and that evening occurs after 7 PM, however some reasonable assumption were made with respect to known schedule.” That statement comes from assumption 34.</p> <p>The worst-case scenario however is that the non-revenue trains are put in the daytime bucket not the night time. This would lower the current night time train level from 20 to 13. For our community to receive noise mitigation the starting noise level only needs to be reduced by 0.5db. Changing the non-revenue trains</p>	<p>Non-revenue train trip schedule was provided.</p> <p>They are denoted as equipment trains. Non-revenue trains were included in the inputs for the noise and vibration modelling. The current operation train schedule was the basis for inputting train trips into the assessment model. This is listed in Table 2a of the Lakeshore East noise and vibration report. Based on the information available at the time of modelling, almost all non-revenue trains operate at night between 11 p.m. and 7 a.m. These trains movements take place prior to the start of revenue service.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			<p>from night time to daytime will lower it below this threshold meaning that our community gets noise mitigation.</p> <p>In the schedules AM rush is defined as 6:13am to 9am and evening is defined as 7:01pm to 12:13. Night time in the protocol is defined as 11pm to 7am and daytime is defined 7am to 11pm. The AM rush non-revenue trains have 47 minutes of “night time” to operate in and 2hrs of “day time” to operate in, yet all were assumed to be in night time, giving Metrolinx a better case scenario in their model.</p> <p>Can you please provide more information on why this assumption was made?</p> <p>If no concrete evidence exists that all these trains always run at night, can you please run the model representing the true worse-case scenario where all non-revenue trains are in the day-time? I don’t think that its right my community doesn’t get sound mitigation based off of an assumption.</p>	
29	Via Email	Noise and Vibration	<p>Table 2a is based off of information titled "Total Equipment Trips Operated" found on page 132 in Noise assessment. That table doesn't distinguish between day and night only AM Rush and Evening, the time for AM Rush is "Start - 9:00" evening is 19:01- Finish. This doesn't align with the protocols day and night time. This was handled by assumption 34 under Appendix B: List of Assumptions on page 124. It states “Based on nonrevenue information that we were provided, we assumed that AM rush occurs before 7 AM and that evening occurs after 7 PM, however some reasonable assumption were made with respect to known schedule.”</p> <p>It is clear that it was only assumed that non-revenue trains run in the night time when the model was originally created. Even the schedule provided shows only 3 non-revenue trains that would pass my house before 7am and none after 11pm. That would change the current night time trains from 20 to 16, I believe that would be enough to lower the starting decibel level by 0.5 which in turn would give our community noise mitigation.</p>	<p>Based on the current operation, the vast majority of non-revenue trains operate at night (11 p.m. to 7 a.m.). The information used to run the noise assessment model is based on the information available at the time the assessment was made. We are not in a position to rerun the model at this time. We are more than happy to meet with you to review our data and the inputs we used for the noise model.</p> <p>We are in the middle of reviewing how best to reduce the noise impact from our GO operation the goes beyond the GO Transit/Ministry of the Environment and Climate Change Noise Protocol. We feel that focusing our efforts on this process will result in a better outcome than rerunning the noise assessment model.We expect to have something to share in the early fall.</p> <p>The results of the noise assessment are preliminary and will be refined during detailed design. In other words, the exact location and length of the identified noise mitigation has not been finalized and will be further assessed. We will keep you updated through detailed design.</p>
30	Via Email	Electrification Benefits and Impacts – Construction	What mitigation measures will be taken during construction of the electrification (noise, debris etc.)?	There will be temporary impacts to the community during construction. Construction impacts as a result of project activities were assessed as part of the TPAP. Impacts on the communities’ are addressed through the various technical studies conducted as part of the TPAP. Noise and Vibration, Air Quality, Visual, and the Land Use and Socio-economic studies all help to indicate these impacts and potential mitigation measures. Traffic, parking, transit, cycling and pedestrian management strategies will be implemented in coordination with Municipalities, as appropriate to avoid/minimize construction interference to the extent possible. A dedicated Community Relations staff member will be available to oversee and respond to any concerns throughout the duration of construction. You can view the draft technical studies at www.gotransit.com/electrification/ .
31	Round 3 PIC (Mississauga)	Electrification Project Scope	I understand that there are routes that will not be electrified because Metrolinx does not own them. However, could electrification be extended to the Kitchener line if the freight bypass to Bramalea is approved?	Metrolinx is looking into this possibility. The challenge is that CN uses the same Kitchener corridor, limiting the ability to expand because CN does not want to jeopardize their freight service. Metrolinx is looking into potential solutions to address CN concerns, with one option being a new freight corridor.
32	Round 3 PIC (Mississauga)	Electrification Benefits and Impacts	Will electrification increase train speed?	Electric trains can accelerate from the GO Stations more quickly than diesel trains.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
33	Round 3 PIC (Mississauga)	Electrification Benefits and Impacts	Will electrification increase ridership?	Yes. <i>[Metrolinx provided the following answer after the meeting: The Business Case for RER (including electrification) forecasts 127 million customers by 2029, representing a 142% increase in ridership from 2014. You can view the business case at the website below.]</i> http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_Summary_EN.pdf
34	Round 3 PIC (Mississauga)	Rolling Stock	Will the travel time from Oakville to Union Station be quicker?	This depends on the type of rolling stock (trains) that is selected – this decision has not yet been made. It is possible to see speeds increase by up to 8%, depending on the rolling stock.
35	Round 3 PIC (Mississauga)	Tree and Vegetation Removal	Will Metrolinx compensate for property value loss as a result of tree and vegetation removal?	For trees on private property, Metrolinx’s realty group would speak directly with property owners and work with them to come to a solution.
36	Round 3 PIC (Mississauga)/Via Email	Tree and Vegetation Removal	How much tree and vegetation clearance will there be?	The vegetation clearance zone is about 2.5 metres from the edge of the OCS. There is a maximum of 7 metres clearance zone from the innermost track. Vegetation clearing is required to: <ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue; and,Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment.
37	Round 3 PIC (Mississauga)	Health and Safety – EMI & EMF	I have safety and wellbeing concerns with respect to EMI/EMF issues.	There are very few EMI/EMF emissions as a result of electrification.
38	Round 3 PIC (Mississauga)	Bidding Process and Financing - Budget	What is the budget for this project, given the \$50 billion transportation improvements approved across the GTA? I suggest you use some of the budget to create more parking.	The budget for electrification is \$2.6 billion.
39	Round 3 PIC (Mississauga)	Bidding Process and Financing	What we haven’t seen so far is the actual costs associated with the project. Who will pay for this? Will our income tax, property tax, or gas tax increase? Is this a Provincial project or are the Feds kicking in, too?	Both the Provincial and the Federal governments are contributing funding to electrification.
40	Round 3 PIC (Mississauga)	Project Timelines	This is an enormous, ambitious project. How will you meet the 2025 target?	Metrolinx is organizing to be able to deliver the infrastructure by 2025. There have been consultations with suppliers for infrastructure. Completing the TPAP is a necessary step in this process.
41	Round 3 PIC (Mississauga)	Project Timelines	Is 2025 still the completion target for Kitchener?	Yes, Metrolinx would be able to meet this deadline.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
42	Round 3 PIC (Toronto)/Via Email	Project Timelines	What is the timeline for implementation? Request Electrification be implemented promptly.	We expect to issue the Notice of Completion in October 2017. Procurement for design and construction is planned for 2018. The plan is to complete the electrification identified in the TPAP of the GO network by 2025.
43	Round 3 PIC (Toronto)/Via Email	Project Timelines	When will work begin along the Lakeshore East Corridor? (Tree cutting, etc.)	Procurement for design and construction is planned for 2018. The plan is to complete the electrification identified in the TPAP of the GO network by 2025. At this point in time, the construction phasing has not been finalized and the exact time frame for beginning construction on the Lakeshore East line is not yet confirmed.
44	Round 3 PIC (Toronto)	Electrification Project Scope	Why is Metrolinx not electrifying the full length of the rail lines?	Metrolinx can only electrify the lines that Metrolinx owns. Trains will still continue to run beyond the electrified sections of track. Riders would get on a diesel train at Union that would continue beyond the termination point of the electrification infrastructure.
45	Round 3 PIC (Toronto)	Electrification Benefits and Impacts	Is electrification in use anywhere else?	Yes, there are successful examples throughout Europe, as well as New Jersey, Montreal, and California’s Caltrain
46	Round 3 PIC (Toronto)	Electrification Infrastructure Design	Does the height clearance under the OCS allow for double stacked train cars?	Yes, there will be extra clearance. CN and CP have running rights on Metrolinx-owned corridors. Some of the CN and CP trains are double stacked and taller than Metrolinx passenger trains. The OCS wires will be installed high enough to allow their trains underneath.
47	Round 3 PIC (Toronto)	Electrification Benefits and Impacts	It sounds like there is a less than 20% reduction in travel time. This doesn’t seem like a convincing reason to electrify. So, why are we electrifying?	In 2010 Metrolinx conducted a feasibility study on electrification. The report concluded that electrification would reduce commute times, reduce maintenance costs because of fewer moving parts on electric trains, and provide environmental benefits like improved air quality and reduced emissions.
48	Round 3 PIC (Toronto)	Electrification Benefits and Impacts	Are there data to support these statistics, such as the cost reductions associated with electrification?	The 2010 study on electrification has these details. You can read the study by visiting: http://www.gotransit.com/electrification/en/project_history/docs/ElectrificationStudy_FinalReport.pdf
49	Round 3 PIC (Toronto)	Bidding Process and Financing - Budget	At what stage of the EA process are costs factored in?	Costs are considered throughout the life of the project. The 2010 Electrification study has the economics of the electrification project and why it makes financial sense. You can read this study by visiting: http://www.gotransit.com/electrification/en/project_history/docs/ElectrificationStudy_FinalReport.pdf
50	Via Email	Electrification Benefits and Impacts – Economic	<p>Why is electrification not as developed in Canada and the United States as it is in Europe? I believe the main reason is economy, for further study can you provide the price indicators of a 2x25 kV system?</p> <p>Price per kilometer (mile) of installing OCS for single-tracked line. I suggest, it would be approx. half of price for double-tracked line.</p> <p>Budget for buy and installation of traction substation</p> <p>Budget for buy and installation of paralleling station</p> <p>Budget for buy and installation of switching station</p>	<p>We understand that electrified commuter rail is not as widespread in North America as it is in Europe other jurisdictions around the world. However, we are not in a position to explain why. What we do know is that we are moving towards electrifying core areas of the GO network by 2025.</p> <p>With regards to your inquiries about the cost of installation for electrified infrastructure, while we cannot offer any specifics that you have requested, we can provide some insight.</p> <p>First, the cost of single-track OCS in comparison to double tracked corridors is dependent on the OCS configuration, i.e. cantilever or portal. In the first case, there is not a significant cost savings between single and double tracks as all OCS poles are still required. In the second case, the single OCS pole requires a more substantial foundation to resist the induced moment. As such, single-track OCS is closer to 75% of the cost than to 50% of the cost.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				The estimated capital cost of electrification is \$2.6 billion, for the construction, adjustments to bridges, and other equipment required, as outlined in the GO RER Initial Business Case Summary (2015).
51	Round 3 PIC (Toronto)	Health and Safety – EMI/EMF	Are there EMI/EMF safety issues with the trains?	Electricity goes through the OCS wire and emits electro-magnetic fields in opposite directions that cancel each other out. There are very low EMI/EMF impacts from electrification.
52	Round 3 PIC (Toronto)	Noise and Vibration	I am disappointed to see that the 5 dB increase criteria for investigating noise mitigation is based on modelling. It sounds like nobody has gone out and done baseline studies across corridors through on-site monitoring. Models are often pie in the sky, and subject to many assumptions. Is there an intention to on-site monitoring for noise?	The noise protocol is based on a 5 dB average noise increase. A baseline was established and modelling was done from there. If we take an exact measurement of the sound, it is hard to isolate the impact of the train for a direct comparison. The way it is measured would not influence the type of mitigation.
53	Round 3 PIC (Toronto)	Noise and Vibration	Are winter conditions included in the vibration modeling?	Yes. Winter conditions were factored in.
54	Round 3 PIC (Toronto)	Noise and Vibration	The noise from an accelerating diesel train is enormous. Electric trains should improve the noise levels.	Yes, there will be a dramatic noise reduction, particularly as trains pull out of stations. When trains are running at top speed, there is little to no difference between the noise of electric trains and diesel trains.
55	Via Email	Noise and Vibration	Noise along the Lakeshore West corridor is affecting our quality of life at home. We are concerned about what the future holds for the Lakeshore West line.	<p>Noise increases above 5 dBA trigger the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. With regards to the Noise and Vibration Impact Assessment conducted as part of the GO Rail Network Electrification TPAP, the closest noise receptor to your residence was found not to be significant (did not show a noise increase above 5 dB) and thus did not trigger the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol to consider noise mitigation. As such no noise mitigation was identified at this location.</p> <p>For more information and to review the draft Noise and Vibration Impact Assessment conducted as part of the GO Rail Network Electrification TPAP please visit gotransit.com/electrification.</p> <p>We certainly understand your concern with increased noise and vibration from GO service expansion. Noise related to existing and future GO service is a concern that we have heard across the region, so we will look at any changes that can reasonably be made to reduce noise in the communities in which we work and serve. Metrolinx is committed to reviewing noise impacts from existing levels of service as a part of a separate process outside of the GO Transit/Ministry of the Environment and Climate Change Noise and Vibration Protocol.</p>
56	Via Email	Noise and Vibration	Please confirm if electrification will reduce noise.	With regards to noise reduction, without an internal combustor engine onboard electric trains are noticeably quieter. Think of the difference between an electric car and gas powered car. However there will still be noise from the wheel/train regardless of diesel/electric trains.
57	Round 3 PIC (Toronto)	Increased Service Level	Does electrification increase capacity? If the objective is to allow more frequent service, why isn't increased capacity identified as a benefit?	Electric trains can reach top speeds faster, but other factors limit the top speed, including curves in the track, the signalling system, and the fact that GO trains share running rights with freight.
58	Round 3 PIC (Toronto)	Health and Safety/ Rolling Stock	Are electric trains healthier than diesel trains? I would like to know more about the health benefits of electric trains.	Metrolinx diesel trains are Tier 4, which are good on emissions. With electric trains there will be zero emissions.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx						
59	Round 3 PIC (Toronto)	Electrification Benefits and Impacts	What will the construction impacts be for commuters coming into Toronto?	Construction will be phased and staged, so not all work will be done at the same time. The goal is to have no impact or minimal impact. Diesel trains will run until the full electrification infrastructure is built.						
60	Round 3 PIC (Newmarket)	Health and Safety – EMI/EMF	What kind of power is going the through the OCS wires and the Traction Power Facilities with respect to magnetic fields, especially in residential areas?	There will be a 25kv system of current running through power lines. A streetcar is 750 DC; electrified trains would be 25, 000 voltage system. EMI/EMF studies were done as part of the 2010 electrification study. The currents create a magnetic field that cancel each other out. There are more EMI/EMF effects from lights than electrification.						
61	Via Email	Health and Safety – EMI/EMF	I have read that there are health affects related to living near substations. Will these substations be close to residential areas? Is it possible to prevent housing from being built in the areas where the substations are constructed?	<p>A compressive assessment was undertaken as part of the TPAP to identify feasible siting options for the Tap/Traction Power Facilities that involved a two-step process of 1) identifying possible sites (see criteria below, and 2) assessing the sites to determine the recommended locations (see criteria below).</p> <p>Criteria for identifying Possible /Viable TPF Sites:</p> <p>6. Is the site situated in the vicinity of Hydro One’s 115kV/230kV high voltage lines?</p> <p>a. To ensure sufficient power load and to maintain high reliability of the power supply, Traction Power Substations should be located as close as possible to existing Hydro One transformer stations and to the rail corridor.</p> <p>b. Siting Traction Power Substations as close as possible to existing Hydro One transformer stations will help limit the cost of high voltage transmission lines or cables required for connection.</p> <p>7. Is the site situated in the vicinity of the GO rail corridor?</p> <p>a. To ensure sufficient power load and to maintain high reliability (as noted above).</p> <p>8. Does the site satisfy minimum size requirements for a TPS?</p> <p>a. The site needs to be of sufficient size to accommodate the electrical equipment.</p> <p>9. Consideration of track geometry</p> <p>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</p> <p>10. Locations of phase breaks</p> <p>a. Traction Power Facilities (TPF’s) need to be located at or near tangent (straight, not curved track) due to the required phase breaks.</p> <p>11. Proximity to GO stations</p> <p>a. Because there is a temporary loss of power to the train consist while traversing a phase break, they need to be spaced sufficiently away from train stations and other locations where the trains make stops. The train consist requires a certain level of speed and momentum to “coast” through the phase break.</p> <p>Assessment Criteria for Identifying Recommended TPF Sites:</p> <table><tr><th>EVALUATION CRITERIA</th><th>DESCRIPTION</th></tr><tr><td colspan="2"><i>Environmental</i></td></tr><tr><td>Natural Environmental Considerations</td><td>Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).</td></tr></table>	EVALUATION CRITERIA	DESCRIPTION	<i>Environmental</i>		Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).
EVALUATION CRITERIA	DESCRIPTION									
<i>Environmental</i>										
Natural Environmental Considerations	Consideration of natural environmental features in the vicinity of the facility location with particular emphasis on features of <i>provincial importance</i> as defined in O. Reg. 231/08 (e.g., Provincially Significant Wetland, Species at Risk habitat, etc.).									

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx	
				Cultural Heritage Considerations	Consideration of cultural heritage/archaeological features in the vicinity of the facility location with particular emphasis on features that have <i>provincial value or interest</i> , as defined in O. Reg. 231/08.
				Land Use & Socio-Economic	
				Land Use/Socio-Economic Considerations	Consideration of existing/planned land use in the vicinity of the facility location (i.e., industrial areas preferred over residential areas); and consideration of social features (i.e., residences, schools, daycares, etc.) in the vicinity of the facility location.
				Development Applications	Consideration of active development applications on the site.
				Property Ownership	Consideration of property acquisition requirements. Sites already owned by Metrolinx are preferred over sites that are not owned by Metrolinx.
				Technical	
				Property shape/configuration	Consideration of the site shape/configuration. Square/rectangular sites are preferred over irregularly shaped sites in order to provide the most ideal space for the configuration of the electrical equipment on the site.
				Access for Construction, Maintenance and Emergency Vehicles	Consideration of the accessibility of the site in relation to construction, maintenance and emergency services.
				Type/length of high voltage connection	Shorter, aerial high voltage connection routes are preferred over longer, underground cable connections which are far more costly.
				<p>In terms of health effects related to traction power facilities, we assume you’re referring to Electromagnetic Interference (EMI)/Electromagnetic Fields (EMF). The proposed TPFs are primarily located in industrial areas away from residences.</p> <p>As part of the TPAP, an EMI/EMF Impact Assessment study was carried out which included the traction power facilities. A full copy of this draft report is available at: www.gotransit.com/electrification/. With respect to EMI/EMF, no adverse effects are anticipated due to the installation/operation of the electrified system/facilities. In addition, the following commitments will be adhered to by Metrolinx and Hydro One during detailed design/implementation of the Tap locations and TPFs:</p> <p><u>Traction Power Facilities</u></p> <ul style="list-style-type: none">• Carry out detailed design and implementation for each Traction Power Facility following the general guidelines of the EMC Control Plan;• Verification/re-measurement of EMI emissions and Extremely Low Frequency at each TPF site as outlined in EPR Appendix J (available at www.gotransit.com/electrification/), and comparison of those measurements with those documented in the GO Rail Network Electrification EMI/EMF Baseline and Impact Assessment Reports (see Appendix J) to verify background measurements as part of detailed design.	

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p><u>Tap Sites</u></p> <p>During the design of the Tap, Hydro One will take EMF into account and minimize EMF where possible.</p> <p>In addition to the EMI/EMF Impact Assessment study, it is worth noting that potential socio-economic effects associated with the proposed Taps/TPFs were also assessed as part of several additional environmental impact assessment studies, including: Noise and Vibration Modelling Reports, Air Quality Impact Assessment Report and Land Use and Socio-economic Impact Assessment Report. These draft reports are available for review at www.gotransit.com/electrification/.</p>
62	Via Email	Health and Safety	What are the potential health issues such as electrical shock?	<p>With regards to health and safety, Electrification wires are similar to utility (e.g., hydro) wires. Their installation will follow strict electrical safety codes and will be installed high off the ground similar to power lines across Ontario. In addition, bridge protection barriers will be provided on all overhead bridges to protect pedestrians from electrification equipment. Grounding and bonding will be put in place and tested regularly to ensure there are no safety risks.</p> <p>With respect to electromagnetic fields, an Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Impact Assessment is being conducted as part of the TPAP to assess the potential effects due to implementation of electrification project infrastructure. No adverse effects are anticipated due to the installation/operation of the electrified system/facilities. Notwithstanding this, once the electric rolling stock has been determined during detailed design, additional EMI/EMF testing and verification will be completed to confirm the initial findings and establish any required mitigation measures.</p>
63	Round 3 PIC (Newmarket)	Electrification Infrastructure Design	What happens to overhead wires at level crossings? Is this dangerous?	There are no safety concerns with the height of the wires above the road. The OCS wires will be 7.2 to 8 meters above road, providing large clearance for tall vehicles. This is twice the truck height limit.
64	Round 3 PIC (Newmarket)	Electrification Infrastructure Design – Vegetation Removal	If hydrogen fuel cells were used, would we still have to cut back trees to protect lines?	The feasibility study will reveal more about infrastructure requirements for hydrogen. A hydrogen fuel cell locomotive would have similar characteristics to a diesel locomotive, so it is likely there would not be much vegetation clearance required.
65	Via Email	Electrification Benefits and Impacts – Vegetation Removal	Will Metrolinx be compensating by planting more trees?	Metrolinx is currently working with the Conservation Authorities and Municipalities on a vegetation/tree compensation strategy to offset removals and that will support and enhance the tree canopy across the region. Following the TPAP, Metrolinx will finalize this protocol for implementation during the detailed design and construction phases. If you would like additional information on tree/vegetation removal, please visit the project website to view the Public Display Boards that were presented at the Public Meetings held this past June/July 2017: http://www.gotransit.com/electrification/en/
66	Round 3 PIC (Toronto)	Electrification Benefits and Impacts – Vegetation Removal	Can you please confirm whether trees within the 7m setback in the ravine between Coxwell and Woodbine will be removed?	<p>A Vegetation Clearing Zone is required in order to provide safe electrical clearances to any existing vegetation along the rail corridors. The Vegetation Clearing Zone entails vegetation removals within the area encompassed by the overhead contact system/2 X 25 kV feeders plus an additional 2 metre offset area on either side of the OCS components or 2 X 25 kV feeders. As a result, the total clearing area is defined as 7m measured from the centerline of the outermost tracks to be electrified on either side of each rail corridor. The 7m zone is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final OCS design.</p> <p>Vegetation clearing is required to:</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">Minimize the risk of tree limbs falling on the track or overhead wires, thus potentially causing a conflict with the electrified system resulting in loss of service and revenue.Accommodate a mandatory clearance zone to ensure maintenance workers are safe when working in an electrified environment <p>The 7m zone assessed as part of the TPAP is considered a maximum removal zone; during detailed design, the 7m zone may be reduced in certain areas where/if possible based on the final Overhead Contact System design.</p> <p>In addition, it should be noted that detailed tree inventories will need to be undertaken during detailed design to determine/confirm the amount of trees that will need to be removed in specific areas along the corridors.</p> <p>Metrolinx has developed a mitigation strategy to address vegetation/tree removals in order to offset losses. Metrolinx is currently working with municipalities and Conservation Authorities on the development of the Tree/Vegetation Compensation Protocol. As part of this, Metrolinx will continue to engage stakeholders in finalizing the details of the protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from the ROW e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards finalizing the details of the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>
67	Round 3 PIC (Newmarket)	Consultation	Which aboriginal groups have you talked to?	<p>As part of the EA process, Metrolinx connected with about 13 groups. We’ve had face to face meetings with the Massessauga and the Huron Wendat, among others.</p> <p><i>[Metrolinx added the following clarification after the meeting: We have met with approximately 18 groups, including the Huron-Wendat First Nations, Williams Treaties First Nations, Six Nations of the Grand River, among others.]</i></p>
68	Round 3 PIC (Newmarket)	Consultation/Impacts	Ensure that residents receive proper notice of when construction starts, and that spotlights do not shine into windows all night.	<p>Metrolinx will provide updates and notifications about when work is happening. Sometimes things will not go according to plan but the idea is to have a dedicated will communications person as a resource to address and mitigate impacts.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
69	Round 3 PIC (Newmarket)	Bidding Process and Financing	Does Metrolinx have early thoughts on contract strategies for design, construction, and financing? How will Metrolinx ensure proper oversight so the project comes in on time and on budget?	Metrolinx will be using an Alternative Financing and Procurement (AFP) contract model for the design, build, financing, and operation. Metrolinx will prepare a concept design of electrification, which will be put out for tender. The successful proponent will design the system and will be required to maintain it for at least 30 years, making sure it's safe and operational. The benefit of the AFP process is that it puts the risk on the contractor to provide excellent design that is stable and reliable for over 30 years. There would be financial penalties for missing key milestones. The contractor also bears the risk for being on time and on budget. Metrolinx will have oversight and will be involved in mitigating issues.
70	Round 3 PIC (Newmarket)	Tree and Vegetation Removal	It looks like there are 16kms of proposed noise barriers along the Stouffville corridor, mostly through old Unionville and Markham. Will there be a significant loss of trees to accommodate the vegetation clearance zone?	Yes, potentially. Noise walls are usually installed on the property boundary. Any trees in the area between the track and the noise wall would have to be removed. If the foundation of a noise wall is in conflict with other trees, Metrolinx would first determine whether there are ways to build the noise wall without removing trees.
71	Round 3 PIC (Newmarket)	Electrification Benefits and Impacts - Construction	What kind of impacts and disruptions are expected during the construction phase for those who live right behind tracks?	Minimal impacts are expected for the construction of the electrification infrastructure. OCS poles will be placed every 65 metres apart. Contractors will drill a hole, insert the pole, and move along. There will be minimal time spent in one spot. For track infrastructure, there will be a longer period of construction for grading work and the installation of track and signals. Impacts, communication: A construction mitigation plan will be put in place with a construction liaison committee. There is also a community relations person dedicated to each corridor. You can sign up to receive regular notices and updates via email, including a schedule with details about where and how long construction will be underway in your neighbourhood.
72	Via Email	Project Scope	<p>I saw the notice of commencement and public meetings and welcome the moving forward on this concept. I just wish at the same time the consideration of using plans to implement high speed rail connecting the dots to major destination points within the Greater Golden Horseshoe would also be addressed at the same time. Its a complex process and the devil is in the details but it has to happen some time in the near future hopefully establishing a main line standardized throughout the system with off shoots to the main line for the last mile.</p> <p>Connecting Hamilton Airport in a seamless fashion would be a good idea if at all possible to fit into the equation also connecting Hamilton Airport to Pearson Airport would be a good bet for connecting major destination points and employment areas along the way if possible.</p> <p>I noticed the listings of six go rail corridors and the Lakeshore West Corridor - West of Bathurst to Burlington ends at Burlington but not Hamilton which I find as a layperson, odd. The opening remarks indicates the Greater Toronto and Hamilton area and yet you end this corridor at Burlington for whatever reason which I am sure makes sense but what are the plans to extend to Hamilton and Hamilton Airport from Toronto?</p> <p>Please advise. Also any plans for looking at High speed connections within the Niagara Region?</p>	<p>Your questions about high speed rail is timely. Back in May, the province of Ontario announced that it is supporting economic growth in Southwestern Ontario and across the province by moving forward with high speed rail along the Toronto-Windsor corridor, becoming the first province to undertake a rail transformation of this magnitude.</p> <p>The province is moving ahead with preliminary design work on the project and investing \$15 million in a comprehensive environmental assessment. Ontario will establish a new governing body to oversee the ambitious work required to design and implement high speed rail. For more information, you can review the May 19, 2017 announcement at https://news.ontario.ca/opo/en/2017/05/bringing-high-speed-rail-to-the-toronto-windsor-corridor.html.</p> <p>At this time Metrolinx is only proposing to electrify Metrolinx-owned rail corridors. The portion of the Lakeshore West Corridor west of Burlington is owned by CN. Further discussions with CN are required before electrified service beyond Burlington can be implemented. It is not anticipated that these issues will be resolved within the timeframe of the GO Rail Network Electrification Transit Project Assessment Process.</p>
73	Via Email	Project Costs	<p>I got the notice about electrician in the mail yesterday, June 29.</p> <p>It invited me to meetings on June 26 and June 28 which had already occurred.</p> <p>Now getting to the project itself, electrification is a bad idea. Changing from a cheap energy source to a more expensive one will cost more to operate.</p>	<p>You are absolutely right, the mailer did not arrive with enough advance notice and we sincerely apologise for the delay in delivering the Notice of Commencement and Public Meetings mailer. Il meeting materials including the presentation, display panels, hand-outs, corridor roll plans, and draft technical reports are posted at gotransit.com/electrification.</p> <p>The June/July public meetings are not the final opportunity to provide your feedback on the proposed plans for Electrification. You may submit your questions or comments via email to: electrification@metrolinx.com at</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
			Furthermore the infrastructure will cost vast amounts of money. As a citizen and tax payer, I tell you I have no wish to pay for any of this.	<p>any time. In addition, there will be a final 30-day public review period once the Environmental Project Report is filed with the Ministry of Environment and Climate Change, and posted publicly at gotransit.com/electrification.</p> <p>We appreciate your comment about not electrifying the GO network. However, the decision has been made to reduce operational and maintenance costs (electric trains are less expensive to operate when compared to a diesel fleet). As reflected in section 1.7 of the GO Regional Express Rail Initial Business Case, the service enhancements envisaged in the near future will take GO rail beyond the threshold of service intensity appropriate for electrification. Continued use of diesel traction will become a source of financial and economic inefficiency. The full Business Case is available at: http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_EN.pdf</p>
74	Via Email	PIC Materials/TPAP Materials	<p>I've been reading Appendix E1 - Land Use Socio-Ec Baseline Report, located on the project website. However, when I went to read Appendix E2 - Land Use Socio-Ec Impact Assessment Report, it turns out that the link for Appendix E2 is incorrect; the link is for Appendix E1.</p> <p>Therefore, it appears that Appendix E2 is not actually available for download on the project website.</p> <p>It would be greatly appreciated if someone could please update the project website as soon as possible. Once the website is updated, can I please be notified, so that I can download the document for review.</p>	Thanks for pointing out the bad link on our Website. As you have indicated below, we have fixed it.
75	PIC Meeting #3	Operation and Service	What will happen to the existing diesel service when work on electrification begins?	<p>New track infrastructure will be completed prior to electrifying the rail corridor as the electrification infrastructure will span all of the existing and new track.</p> <p>Once electrification is implemented, Metrolinx will operate a mixed fleet of both diesel and electric trains. Note that diesel trains will still be able to operate along the electrified corridors to service passengers travelling west of Burlington and west of Bramalea station.</p>
76	Via Email	Electrification Benefits and Impacts	Given the numerous recent advances in transportation and communication technologies, why are we making such a huge investment into an older transportation technology?	<p>The GO Rail Network Electrification project, as part of the Regional Express Rail project, will yield numerous benefits, including:</p> <ul style="list-style-type: none">• Improved Service Reliability<ul style="list-style-type: none">○ More frequent service reduces reliance on scheduled trips and increases the number of available seats○ Lower operating and maintenance costs; we can offer more trips with electric service than diesel service• Reduced Travel Times and more Attractive Service<ul style="list-style-type: none">○ Electric trains can accelerate and decelerate faster and stay at top speed for longer, saving time for customers○ By attracting additional riders, frequent electric train service reduces road congestion and reduces greenhouse gas emissions from automobiles○ Regenerative braking puts energy back into the system

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">Reduction in Greenhouse Gas (GHG) Emissions, which form a minor part of the regional emissions totalImproved Air Quality <p>Please visit www.gotransit.com/electrification for further details, and to view the draft technical reports.</p> <p>As reflected in section 1.7 of the GO Regional Express Rail Initial Business Case, the service enhancements envisaged in the near future will take GO rail beyond the threshold of service intensity appropriate for electrification. Continued use of diesel traction will become a source of financial and economic inefficiency (electric trains are less expensive to operate when compared to a diesel fleet). The full Business Case is available at: http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/GO_RER_Initial_Business_Case_EN.pdf</p>
77	Via Email	Electrification Benefits and Impacts – Adjacent Development	Is Metrolinx aware of the proposed residential development near Major Mackenzie Drive and the Maple GO Station?	<p>Based on the conceptual design developed, there are no anticipated property takings/impacts associated with implementing OCS infrastructure along the rail corridors and only approved development applications were reviewed in detail as part of the TPAP.</p> <p>Having said this, the City of Vaughan has been consulted with throughout the TPAP and further coordination with the City of Vaughan will be undertaken during detailed design to finalize design details and minimize any conflicts on adjacent uses.</p>
Infrastructure, Operations and Maintenance, Rolling Stock, and Other Questions/Comments				
78	Round 3 PIC (Newmarket)	Elec Infrastructure Siting – TPFs	Where is the Newmarket SWS to be located? Will there be emergency roads leading to the SWS? Is there a distance requirement between the SWSs and residential areas?	<p>The Newmarket Switching Station (SWS) is to be located on a parcel of land at 590 Steven Court in Newmarket. The northern portion of the parcel is currently a public utility building (Newmarket Hydro) and associated parking lot/storage area. The southern portion is open space with some trees and manicured grass. The parcel is surrounded by industrial buildings, with a hydro corridor to the west. The proposed positioning of the SWS facility is located in the southern portion of the parcel, and is currently open space/vegetation. A map of the Newmarket SWS can be found online within the GO Rail Network Electrification TPAP public meeting #3 display panels at www.gotransit.com/electrification/.</p> <p>With regards to setbacks, the Metrolinx Adjacent Development Guidelines outline requirements for new residential developments within 300 metres of Metrolinx’s rail corridors. Potential effects associated with installation/operation of the proposed traction power facilities (including the Newmarket SWS) were assessed in detail as part of the GO Rail Network Electrification TPAP. With regards to land use, the Newmarket SWS is located in an area of compatible land use within the existing land use and zoning of the property. The SWS location is not anticipated to negatively affect future development within the zoning context, and therefore no negative net effects to land use are expected. In addition, development on this site will have negligible visual impact on the surrounding area, and therefore, no mitigation measures are required. However, Metrolinx’s preferred design of the Newmarket SWS facility is to include some form of visual screening.</p> <p>The final design of the traction power facilities will include provisions for emergency vehicle access.</p>
79	Round 3 PIC (Ajax)	Health and Safety	Are there any safety procedures in place for passengers in the event of a power outage?	<p>The system is designed to be able to power trains between areas of power outages. Each station has two transformers so if one goes out, the other will be available for power. If you lose one main power station, you can rely on other substations to operate.</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
80	Round 3 PIC (Ajax)	Electrification Infrastructure Design	What is the distance from the track to the OCS pole and the pole to private property (Wales Avenue on the Stouffville line)? It looks like the OCS or noise walls will need to be on my property. What happens in this case?	In terms of tight areas on the corridor, site specific solutions will need to be achieved. Typically, the OCS pole would be 2.9 metres from the centre line of the track (between the two rails) to the face of the pole. Depending on the OCS structure (because of the possible difference in number of rail lines it needs to cross), poles are about 1 foot (30 cm) wide. 3 metres from the wire is required. So, either a technical solution will be investigated like bringing the wire inside the corridor or look at gaining some land. The distance is 7 metres, ideally, which is easy in an open field, but more difficult in Stouffville. Typically noise walls are about 5 metres high from the top of the rail (as it must block the path of sound to be effective). For private property, Metrolinx will look at the potential impacts and examine how or whether these impacts can be mitigated. If mitigation is not feasible, Metrolinx then determines what is required in order to mitigate the impact and will deal directly with the property owner.
81	Round 3 PIC (Newmarket)	Electrification Infrastructure Design	Will the Allandale Tap/TPS facility have back up service in case of any power failure like a blackout?	Coordination with Hydro One is being undertaken to ensure the necessary redundancy in the system to ensure electrified GO service will not be interrupted or affected by any shortages in power. In addition, Traction Power Substation (TPS) have been strategically placed throughout the network. In the event of a power outage at a TPS, power can be drawn from other TPS locations. Switching Stations (SWS) are placed between two TPS's and serve this purpose. Metrolinx will also be maintaining a mixed fleet, as not all corridors are currently proposed to be electrified. In a worst case scenario, a diesel powered train(s) could be called into service in the event of a power outage or to move a stranded train.
82	Round 3 PIC (Ajax)	Rolling Stock	Who is building the trains/ where are the trains being built?	This decision has not yet been made. Metrolinx will include trains as part of the RFP package. Different strategies are being discussed. There are electric locomotive trains, Electric Mobile Units (EMU) trains, and electric locomotive engines replacing diesel – these would be phased in.
83	Round 3 PIC (Ajax)	Rolling Stock	Will Metrolinx resell the old trains to salvage some of the funds from them? It would be costly to turn them into garbage.	There is a resale market for trains, and this will be part of Metrolinx's rolling stock strategy.
84	Round 3 PIC (Ajax)	Rolling Stock	Does Metrolinx have plans to include train cars that can accommodate bikes? GO Train cars have bike trains and large volume capacity. It would be nice if something like 4 out of the 14 train cars allowed bikes on board	Metrolinx will determine how many bikes need to be accommodated.
85	Round 3 PIC (Ajax)	Noise and Vibration	When will construction start on new or upgraded noise walls, and when and how will residents be notified about it? I live right next to a noise wall just north of the 401.	The noise wall north of the 401 would be associated with the highway, not the tracks. However, for noise walls, there would be an AFP (Alternative Financing and Procurement) contract. It will still be a few years before Metrolinx will know the details on when certain noise walls will be built. A location schedule will for noise wall construction will be made once the RFP has been issued and a contract has been procured. Notification to residents will happen well in advance.
86	Round 3 PIC (Ajax)	Hydrogen and Alternative Designs	Will you be issuing the RFP before the Hydrogen Feasibility Study is complete? If not, it appears that the timeline for completion in 2025 is flawed. 2025 was a hard date promised by the Minister.	The RFP will only be issued after the Hydrogen Feasibility Study is complete and a decision has been made on the technology. The plan is still to complete the work by 2025.
87	Round 3 PIC (Ajax)	Hydrogen and Alternative Designs	Two of the benefits of electrification include increased acceleration leading to faster service, and regenerative braking. Would hydrail still have these benefits?	Metrolinx will have to look at this.
88	Round 3 PIC (Ajax)	Accessibility	This project is scheduled to be complete in 2025. AODA compliance rules should be in place by then as well. What impact will electrification have on accessibility with respect to cars, platforms, stations, and access?	Metrolinx has committed to fully accessible cars and stations

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
89	Round 3 PIC (Mississauga)	Electrification Infrastructure Design	How close are the OCS poles to each other?	The OCS poles would be approximately every 50-65 m on a straight piece of track. Where there are curves or switches in the track, OCS poles could be closer together. The OCS poles will be approximately 2.9 metres from the track.
90	Via Email	Electrification Infrastructure Design	What do you mean by electric trains with overhead electric wires? What happens to the wires when ice builds up?	<p>The Overhead Contact System (OCS) is a series of overhead wires which supply electricity to the electric trains. Power is supplied to the train through the pantograph which makes contact with the OCS. The OCS is supported by portal/cantilever structures.</p> <p>An electrified system is designed to stay operational under most weather conditions. Rain and snow have little effect on the system. Heavy ice storms may affect the system if wires get coated with ice, preventing electrical connections from occurring. However, running trains will assist with clearing any ice that has formed on the wires and helps to reduce build-up.</p>
91	Round 3 PIC (Mississauga)	Electrification Infrastructure Design	Will you be installing the OCS along existing GO Train tracks or are you adding more tracks?	For 15 minute service, Metrolinx needs extra tracks on certain corridors (e.g. Barrie). Electrification infrastructure will go over top. Lakeshore West already has enough track for increased service, so there is no need to add more.
92	Round 3 PIC (Mississauga)	Electrification Infrastructure Design	Is the pedestrian and bike path design parallel to bridge feasible?	Yes, it is feasible. There shouldn't be any conflict as there will be a 7 m high fence separating the rail from the paths, eliminating the potential for contact with wires.
93	Round 3 PIC (Mississauga)	Rolling Stock	What type of trains will you be running on the electrified line, and will the double decker trains still fit under the OCS?	Metrolinx has not selected the type of trains yet. Metrolinx invested millions of dollars into the double decker coaches. Metrolinx may choose EMUs in the future where each passenger coach has an electric engine in it.
94	Round 3 PIC (Mississauga)	Hydrogen and Alternative Designs	Isn't it true that you will not need the Traction Power Stations and the Overhead Contact System if hydrogen technology proves to be feasible and you choose this technology instead? Will you begin building this infrastructure before making a decision on hydrogen?	Metrolinx is looking at the feasibility of hydrogen powered trains at the same time as seeking approval for electrification. Right now there isn't a hydrogen powered train model for high volume commuter rail. Construction for the electrification infrastructure is scheduled to begin next year. Metrolinx will have to decide on hydrogen before then.
95	Round 3 PIC (Mississauga)	Hydrogen and Alternative Designs	Visual effects and tree and vegetation impacts were a heavy focus of the presentation. Have you considered alternatives to the OCS? In Germany they have High Speed Trains with no overhead wires, like a subway power source.	Metrolinx has 250 km of rail corridor to cover and over 150 at-grade crossings, making it impossible to provide the enclosed environment required for a third rail system (like a subway). Furthermore, while freight trains do not use these tracks often, they still have running rights. CN and CPR's diesel trains still have to be accommodated on these tracks, which would impede the ability to implement High Speed Rail.
96	Round 3 PIC (Mississauga)	Hydrogen and Alternative Designs	Are there any other alternatives to the OCS? Can you bury the trains underground, like a subway?	In 2010, Metrolinx undertook a study to look at ways to supply power to trains. The study concluded that electrification was the best option.
97	Via Email	Hydrogen and Alternative Designs	Noted support for electrification and provided information on hydrogen fuel cell technology for Metrolinx/MTO's consideration for the Hydrogen Fuel Cell Feasibility Study.	Information was provided to Metrolinx group coordinating the Hydrogen Feasibility Study.
98	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	How much cost in infrastructure (OCS, bridge modifications, vegetation clearing etc.) would be saved with hydrogen trains? Why study electrification via overhead wires when hydrogen would not involve as many infrastructure requirements?	Metrolinx is currently undertaking a feasibility study that will compare Hydrogen and electrification. The report should address the issues raised.
99	Round 3 PIC (Newmarket)	Hydrogen and Alternative Designs	What are the hydro costs vs hydrogen costs? Has this been determined on a preliminary basis?	A Hydrogen Train Pre-Feasibility Study was completed approximately 10 years ago. At the time, the cost of hydrogen was estimated at \$25 - \$50 / GJ. The cost of electricity was estimated at \$30 / GJ (10.8 cent/kWh). The cost of hydrogen was based on an Atomic Energy Canada study. The cost of electricity was the price of

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				electricity at the time. Over the last 10 years, technologies and costs have changed significantly to make these estimates invalid. Metrolinx is undertaking a new feasibility study that will consider Hydrogen / Electrification costs.
100	Round 3 PIC (Mississauga)	Hydrogen and Alternative Designs – Third Rail	Can you turn third rail systems, like TTC, on and off electronically?	TTC runs on a low voltage third rail. Europe uses an OCS system to support long term travel – long distances. The distance that Metrolinx serves is much further than the TTC serves. If Metrolinx implemented a third rail system, there would need to be significantly more traction power substations and power distribution facilities built along the corridors. The TTC uses 600 volts of power while the electrified Metrolinx system will use 25,000 volts, so there would also be significant safety issues to mitigate.
101	Round 3 PIC (Toronto)	Electrification Benefits and Impacts – Power	How much electricity is involved in the system and where is it coming from? With Ontario’s over supply and under sale of electricity, how will supply and demand impact electrification?	Metrolinx and Hydro One are co-proponents for the electrification project. Traction Power Substations are strategically located so Metrolinx can tap into Hydro One resources. Electric trains will run on 25,000 volts. You can visit the Independent Electricity System Operator (IESO) website for more information: http://www.ieso.ca/
102	Round 3 PIC (Toronto)	Electrification Benefits and Impacts – Power	Will residential electricity rates go up if Metrolinx is powering trains using electricity from the same grid as residential areas? If it is rush hour and dinner hour and there is high demand on the hydro system due to increases electrified service, will this impact electricity prices for residents?	Metrolinx is considered a large consumer client with a direct deal with Hydro One. Hydro One is aware of the power requirements for electrification. The system is currently oversupplied at certain times, and there is no expectation of rate increases. Hydro One does not expect an impact to residential services. ‘Time of Use Pricing’ will also continue.
103	Round 3 PIC (Toronto)	Electrification Infrastructure Design	Has Metrolinx considered making electrification infrastructure available to other grid users in general, including TTC, electric buses, etc.?	No, this has not been considered for the following reasons: TTC streetcars and the subway use 750 DC power from Toronto Hydro. These trains are travelling short distances. The GO train travels much further and uses 25k AC voltage. They are different power classes.
104	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	How does the hydrogen feasibility study fit into the Electrification EA?	The Hydrogen Feasibility Study is not part of the Electrification EA. The Feasibility Study will help Metrolinx determine which technology to use to electrify the network.
105	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	How is the Hydrogen Feasibility Study being done?	The Hydrogen Feasibility Study was just announced. Metrolinx and the Ministry of Transportation will work on the study together. There will be a symposium in the fall at the University of Toronto, bringing together industry leaders and experts to explore whether these types of trains can be procured, whether they meet Metrolinx specifications, and whether the technology can power a 12-car GO Train with the maximum capacity of passengers.
106	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	Will you be doing the Hydrogen Feasibility Study at the same time as you complete the Electrification EA? Shouldn’t you complete the Hydrogen Feasibility Study first?	Metrolinx is working on both concurrently. Metrolinx is not required to begin implementing plans as soon as the Electrification EA is complete. Metrolinx will decide on hydrogen before building any of the OCS infrastructure.
107	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	How long will the Hydrogen Feasibility Study take? I assume construction would be shorter for hydrogen.	Electrification does require a lot of infrastructure and impacts to evaluate. Part of the Feasibility Study is to examine the environmental impacts of the infrastructure required for hydrogen. We do not yet know these impacts so it is unclear if the process for hydrogen would take longer, shorter, or the same amount of time as electrification.
108	Round 3 PIC (Toronto)	Hydrogen and Alternative Designs	It is an excellent idea to study hydrogen fuel cells. Using hydrogen could eliminate almost all infrastructure issues you have identified with electrification. In the U.K., Battery Electric “BV” for trains appears to have the same benefits of fuel cells.	Battery Electric and hydrogen fuel cells were ruled out in the 2010 electrification study. The difference is, there have been major advancements in hydrogen so the Province has committed to re-examining this technology.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
109	Round 3 PIC (Toronto)	Electrification Infrastructure Design	The Dufferin Street Bridge over the Lakeshore West corridor and the expressway are slated for replacement in 2018. Is this being taken into consideration during the planning for electrification bridge work?	The Dufferin Street Bridge is a gable bridge. Metrolinx is aware of the plans to upgrade this bridge. Dufferin, Dunn, and Dowling bridges will all require creative solutions to accommodate electrification infrastructure. Some options to consider include new elevated bridges or lowering the tracks in these areas.
110	Round 3 PIC (Toronto)	Cultural Heritage	I am with the Friends of Fort York. We would like some assurance that Fort York is included in your list of potentially impacted heritage properties and that it will get bespoke treatment. Also, what is the status of the Bathurst Bridge? This is a heritage designated bridge. The heritage value and impacts on both the Fort York and the Bathurst Bridge should be considered.	The Bathurst Bridge is a provincially significant heritage bridge that will require a custom solution that accounts for the scenic views and is in line with the City’s plans for the bridge.
111	Round 3 PIC (Toronto)	Electrification Benefits and Impacts - Crossings	Who is Metrolinx speaking with at the City about the Dowling/Jameson bridges?	Metrolinx has connected with Senior Level Management in Planning, Public Works, Transportation Services, Major Capital Infrastructure, Bridges and Structures, among others.
112	Round 3 PIC (Toronto)	Electrification Benefits and Impacts - Crossings	I am from Options for Davenport. I do not see any indication of how you will be treating the Wallace Avenue Bridge. Our community considers this a heritage bridge. Will you be engaging further with the community about plans for the Wallace Avenue Bridge?	Metrolinx also considers the Wallace Avenue Bridge a heritage structure, and there is a process in place to protect the heritage attributes. Metrolinx is still early in the preliminary design phase, so engagement has not happened yet. The Wallace Avenue Bridge will need to be altered for electrification. The treatment of this bridge was addressed through the UP Express EA, which is why it is not part of the current network Electrification EA discussion. The bridge is not structurally sound. The floorboards and railings would need to be replaced and there are weight bearing issues.
113	Round 3 PIC (Toronto)	Rolling Stock	I am a strong supporter of electrification. Will electrification mean faster trains? I heard that the trains can move up to 120 km/h. Are there speed restrictions? It sounds like Metrolinx could be designing a Porsche for the autobahn but we can’t drive it on the autobahn.	The advantage isn’t the top speed the train can achieve, but how quickly the train accelerates. Electric trains are better at reaching top speed and staying there longer before having to slow down, compared to diesel trains.
114	Round 3 PIC (Toronto)	Rolling Stock	Is Metrolinx doing anything to address the areas that are impacting the ability to achieve top speed (e.g. bends in track, accommodating other trains, switch and signal issues, etc.)?	Metrolinx would not be able to do High Speed Rail because other users (CN, CP, VIA Rail) need to be able to use the track as well. Metrolinx strives for Class 5 track, which allows for speeds up to 120 km/h, but a dedicated rail line would be required for High Speed Rail.
115	Round 3 PIC (Toronto)	Rolling Stock	Shouldn’t Metrolinx take this opportunity to straighten out the track to increase speed where it is possible to do so?	Metrolinx looks at every opportunity to improve the speed of service, and many upgrades have been made to the signal system to allow increased speeds wherever possible. The LSE and LSW corridors are fairly straight, but others have more curves. Metrolinx does not own all of the property that would be required to straighten out the track. A lot of land would have to be expropriated to do this, especially in the City which would impact many residential homes near the track.
116	Round 3 PIC (Toronto)	Rolling Stock	Why do the trains slow down sometimes?	Speed limits on the corridor are based on the tracks. For example, trains will move slower when there are bends in the track or construction nearby, and signal systems may tell trains to stop or slow down as required.
117	Round 3 PIC (Toronto)	Rolling Stock	Is the rate of the GO Train acceleration dependent on horsepower and the wheels on the tracks or slippage (wheels spinning on the tracks)?	The locomotives are designed to compensate for slippage, like traction control.
118	Via Email	Rolling Stock	My client has locomotives available for sale.	We are currently reviewing the fleet strategy to determine the type(s) of vehicles we will procure. This work is looking at vehicle types from self-propelled electric multiple units (EMUs) to electric locomotives to a combination of both. The fleet strategy review is still on-going at this time.
119	Round 3 PIC (Newmarket)	Electrification Infrastructure Design - Barriers	Will the entire corridor have fencing to secure perimeter?	Metrolinx will install 8-foot non-climbable fencing along the right-of-way. Noise walls can also act as security barriers.

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
120	Round 3 PIC (Newmarket)	Electrification Infrastructure Design	What happens to the system if a weather disaster takes out a section? Does it disrupt the whole corridor or just the part where damage occurs?	There are instances of natural damage to OCS wires, and if one section is brought down, power from other substations can be used to power the network. Sections of track can be isolated to turn off power – Metrolinx does this to perform maintenance.
121	Round 3 PIC (Newmarket)	Electrification Infrastructure Design – Crossings	I came from Toronto to talk about bridges in Parkdale that provide area residents with access to the lake. Please design the Dunn, Dufferin, Dowling, Jameson and Roncesvalles bridges with a plain or heritage look and avoid making them too modern and mechanical looking.	Roncesvalles pedestrian bridge is not an issue but will have barriers. The Dunn, Dufferin, Dowling, and Jameson bridges are temporary gable bridges until Metrolinx and the City of Toronto reach an agreement on who is going to do what with these bridges. If Metrolinx takes the bridges on, they will go through a design excellence process. Metrolinx will take this as feedback for the process.
122	Round 3 PIC (Newmarket)	Electrification Infrastructure Design – Lifecycle	What is the life cycle design of the proposed electrification infrastructure and what do you see as the weakest link?	A 30 year life cycle design will be built into the AFP. The AFP contractor will be responsible for designing and maintaining the infrastructure for at least 30 years, which would incentivize them to ensure the system is robust enough to last. When the contractor hands the system back to Metrolinx after the 30 year period, the infrastructure has to be in good enough shape to last another from 10-30 years, depending on the market. The OCS and wires can last up to 60 years and power stations and transformers can last 30-40 years. The weakest link lies within the traction power/switching stations.
123	Via Email	Project Design	I have been wondering what will happen to the catenary when the railway meets a level crossing. And if it runs above the track at the level crossing what is the separation between the road and the power line? I live in Newmarket and I am thinking particularly about Davis Drive.	The Overhead Contact System (OCS) is a series of overhead wires which supply electricity to the electric trains. Power is supplied to the train through the pantograph which makes contact with the OCS. The OCS on the Barrie Corridor will run from Parkdale Junction (off Kitchener Corridor) to Allandale GO Station. The maximum height for vehicles and loads according to the Highway Traffic Act is 4.15 m. The electrical wires associated with the OCS located at road-rail grade crossings will be equal to or higher than the required clearance of a hydro utility line that would normally cross the road. Generally, higher voltage wires are located higher on utility poles to maintain clearance requirements. The code requires a minimum clearance of 6.0 m and the design of this project will provide a minimum clearance of 6.7 m. This minimum clearance height will allow for vehicles to pass under the OCS at road-rail grade crossings. The OCS is supported by portal/cantilever structures
124	Via Email	Construction and Facility Siting – Facility Locations	Would the proposed power tap site be in Burlington? How would this affect Oakville?	A Traction Power Substation (TPS) and a Tap site are proposed in the City of Burlington. A Tap site is the point at which electric power is ‘tapped’ from the existing Hydro One power grid. Traction Power Substations are traction power facilities that are required to transform the voltage from 230kV to 25kV for distribution to the trains via the Overhead Contact System (OCS). The Burlington Tap and TPS are proposed to be located east of 845 Laurentian Drive in Burlington. Please see Attachment 1 for a map of the proposed Burlington Tap/ TPS location There are no potential impacts in Oakville associated with the proposed Burlington Tap/TPS facility. In addition, a Switching Station (SWS) is proposed in the Town of Oakville at 560 Maple Grove Drive. Switching Stations are traction power facilities that are located between traction power substations to segregate power flow on the network. Please see Attachment 2 for a map of the proposed Oakville SWS location. A photo of a Switching Station has been provided below for your information. Potential effects associated with installation/operation of the proposed traction power facilities (including the Oakville SWS) were assessed in detail as part of the GO Rail Network Electrification TPAP within several draft Impact Assessment Reports. These reports are available for review at www.go transit.com/electrification/ . We have provided a brief summary of the impact assessment results as follows for your information: Visual

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<ul style="list-style-type: none">- The Oakville SWS in a storage yard and parking area behind a commercial development and will not be visible from the surroundings. As a result negligible visual impacts are anticipated with siting the Oakville SWS at 560 Maple Grove Drive. <p>Land Use</p> <ul style="list-style-type: none">- As mentioned above, the site of the proposed Oakville SWS is currently located in a storage and parking area surrounded by the rail corridor and commercial buildings. Further coordination will be undertaken with the Town of Oakville during detailed design to finalize the design details of the SWS to ensure no land use conflicts. No net land use effects are anticipated for siting the Oakville SWS at 560 Maple Grove Drive. <p>Noise</p> <ul style="list-style-type: none">- The noise impacts from the TPFs were evaluated at nearby receptors and were compared to the applicable limits as set out in the Ministry of the Environment and Climate Change’s (MOECC) Environmental Noise Guidelines NPC-300. The noise impacts from the operation of the Oakville SWS are predicted to be below the MOECC 2013 Noise Guideline (NPC-300) applicable exclusion limit, therefore, no mitigation measures are required for the Oakville SWS <p>Natural Environment</p> <ul style="list-style-type: none">- As the proposed Oakville SWS site is within a storage yard and parking area with no natural features, no vegetation removal will be required and no adverse impacts to wildlife or wildlife habitat are anticipated as a result of siting the Oakville SWS at 560 Maple Grove Drive. No mitigation measures required.
125	Via Email	Construction and Facility Siting - Facility Locations	If the Kirby GO Station is recommended, will the Maple Paralleling Station be located within the Kirby GO Station property boundary or will additional land be required?	<p>Metrolinx only acquires property when it is absolutely necessary and all options have been exhausted. We will contact property owners that may be impacted by any proposed projects to expand transit across the region. If property is required, Metrolinx will work to provide fair and reasonable compensation for all property rights that are required.</p> <p>In June 2016, a new GO station was announced at Kirby. The scope of the Electrification TPAP has considered existing GO stations or stations which had EA approval at the time of preparing the EA. Electrification does not prevent these new stations from being constructed in the future. Based on the conceptual site design, the proposed positioning of the PS facility is abutting the existing railway corridor. There are no anticipated conflicts with the type of development proposed within the Kirby GO Transit Hub designation, including the Kirby GO Station.</p>
126	Via Email	Electrification Benefits and Impacts – Power Supply	What technology are you studying? Is it fuel cells on board trains or an electrical network with overhead catenary powered by hydrogen? Will the Hydrogen Feasibility Study extend the timeline for RER? And if hydrogen power is adopted, will it be tested on certain lines before seeing full implementation?	<p>The Ontario Ministry of Transportation (MTO) is currently examining the feasibility of hydrogen fuel cell technology/hydrogen powered vehicles through a pilot project to assess the viability of hydrogen propulsion locomotives for the GO network. The output of this study will be used to inform the decision regarding which technology will be used to electrify the GO network, prior to commencement of construction.</p> <p>As part of the 2010 Metrolinx Electrification Study[1], one of several alternatives for train propulsion Metrolinx examined was trains powered using hydrogen fuel cell technology or from batteries that store energy. The conclusion of the assessment in 2010 (which looked at technical, commercial and compatibility criteria) was that the power supply option most appropriate for the GO Transit rail network (including Union Pearson Express) was the use of an overhead contact system. The current GO Rail Network Electrification TPAP is based on the implementation of this type of system (see Sections 3.5 and 3.6 for further detail).</p> <p>Infrastructure proposed as part of the GO Rail Network Electrification TPAP as documented in this EPR in no way precludes future technological advances, such as hydrogen propulsion locomotives. Metrolinx will</p>

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>continue to monitor the developments of advances in new rail propulsion technology as they become more viable systems in the future.</p> <p>The Hydrogen Feasibility Study will explore all of the issues associated with implementing trains powered by hydrogen fuel cells. This will draw on lessons learned in Germany where hydrogen powered trains are being introduced in late 2017/18 for passenger service. The study will need to explore everything from fuel supply and storage, to vehicle design and fleet planning, to statutory and regulatory requirements, to standards and operational rules, to testing economic viability and impact on RER’s business case, and understanding the associated timescales should implementation go ahead. As part of the study, this fall the province will bring together industry leaders in fuel cell technology for a symposium hosted by the University of Toronto to explore the potential application of hydrogen fuel cell technology to electrify the GO rail network.</p> <p>By looking at the feasibility of hydrogen while also pursuing the Electrification TPAP, we are making sure we stay on track for 2025.</p> <p>[1] http://www.gotransit.com/electrification/en/project_history/docs/ElectricificationStudy_FinalReport.pdf</p>
127	Via Email	Project Design	If new, higher barriers are needed for the recently constructed Strachan Avenue bridge, will new, higher barriers be required for the Bathurst Bridge?	<p>The GO Rail Network Electrification TPAP has been the subject of a series of meetings including a third round in June/July 2017 . This work was preceded by the 2014, Metrolinx TPAP studying electrification of the UP Express service from Union Station to Pearson Airport. This process included assessment of potential modifications required to bridges to accommodate electrification. This study recommended the addition of a bridge protection barrier for safety for the Bathurst St Bridge as part of electrification. For the full UP Express Electrification Environmental Project Report (EPR) and all supporting environmental reports (EPR Appendices), please visit: http://www.gotransit.com/electrification/en/project_history/default.aspx.</p> <p>The current GO Rail Network Electrification TPAP picks up where the previous study left off by assessing electrification of five GO owned rail corridors, including the Lakeshore West corridor from just west of Bathurst St (Mile 1.20) to Burlington. The Bathurst Street Bridge is outside of the scope of the current TPAP study. The TPAP does however, recommend modifications to the Strachan Avenue Bridge to facilitate electrification, including the addition of bridge protection barriers.</p> <p>More detailed information on the GO Rail Network Electrification TPAP, can be found at: http://www.gotransit.com/electrification/en/default.aspx</p>
128	Via Email	Electrification Infrastructure	Where will the Maple PS be located, and what kind of impacts can residents expect?	<p>A Paralleling Station (PS) (Maple PS) is proposed in the City of Vaughan. A Paralleling Station contains an autotransformer that helps support the voltage going through the Overhead Contact System (OCS). Paralleling Stations are required to prevent the power voltage from dropping below permissible levels along the rail corridor. Like breaker panels in your home, they feed smaller sections of the railroad. This way, if a breaker trips in one section, it doesn’t turn off power to the whole system.</p> <p>The proposed Maple PS site is to be located on a parcel of land along the west side of Keele Street, north of Teston Road in Vaughan.</p> <p>Potential effects associated with installation/operation of the proposed traction power facilities (including the Maple PS) were assessed in detail as part of the GO Rail Network Electrification TPAP within several draft Impact Assessment Reports. These reports are available for review at www.gotransit.com/electrification/. We have provided a brief summary of the impact assessment results as follows for your information:</p> <p>Visual</p> <ul style="list-style-type: none">• The Maple PS site is currently an open agricultural field. However, the City of Vaughan is undertaking a planning study, titled Block 27, Secondary Plan for the entire area bounded by Kirby Road, Teston Road, Keele Street and Jane Street. The proposal is to develop a mixed use urban community with a

ID	Source	Topic /Issue Raised	Question/Comment	How Comment was Considered by Metrolinx
				<p>range of housing and transportation. Development at this site will have a moderate to high visual impact on views from the surrounding community depending on the ultimate plan for the surrounding development. Adverse net visual effects will be minimized through implementation of screening measures around the facility. The type of screening (vegetative, structured wall, etc.) will be determined during detailed design.</p> <p>Noise</p> <ul style="list-style-type: none">The noise impacts from the Traction Power Facilities (TPF's) were evaluated at nearby receptors and were compared to the applicable limits as set out in the Ministry of the Environment and Climate Change's (MOECC) Environmental Noise Guidelines NPC-300. The noise impacts from the operation of the Maple PS are predicted to be below the MOECC 2013 Noise Guideline (NPC-300) applicable exclusion limit, therefore, no mitigation measures are required for the Maple PS. <p>EMI (Electromagnetic Interference)/EMF</p> <ul style="list-style-type: none">With respect to electromagnetic fields, no adverse effects are anticipated due to the installation/operation of the electrified system/facilities. Notwithstanding this, there will be a re-assessment of EMI levels post-electrification at the TPFs to confirm the initial findings and establish any required mitigation measures.
129	Via Email	Electrification Infrastructure	What will the procurement process for the necessary infrastructure look like?	<p>The first step is to complete the GO Rail Network Electrification TPAP, finalize detailed design, and then procure the project before construction can begin. We are currently completing the TPAP environmental assessment to electrify core areas of the GO network by 2025.</p> <p>At this time we cannot provided answers to your questions regarding RFQ dates, construction schedules, or contract types, as this would contravene procurement confidentiality.</p>
130	Via Email	Land Acquisition	Will Metrolinx need to expropriate land to increase the size of the right-of-way?	<p>We are still finalizing the requirements for electrification but we do not anticipate we will need additional property. We will notify you if things change.</p>
131	Via Email	Electrification Benefits and Impacts – Rail Crossings	Has Metrolinx taken into consideration the City of Barrie's proposal for widening Lockhart Rd when planning this project?	<p>The City of Barrie has been consulted with throughout the TPAP and further coordination with the City of Barrie will be undertaken during detailed design to finalize design details and minimize any conflicts on adjacent uses.</p>
132	PIC Meeting #3	Electrification Benefits and Impacts – Noise and Vibration Mitigation	Noise walls/berms do modify/reduce sound in the areas adjacent to the walls/berm but it simply sends the sound higher and further over the berm wall to areas farther away. What materials can you use to mitigate the situation?	<p>A noise and vibration impact assessment was completed as part of the GO Rail Network Electrification TPAP. The noise models looked at the impact of an assumed 5m high absorptive noise barrier to determine whether the noise can be reduced by at least 5 dBA. During detailed design, the preliminary evaluation will be refined. We will investigate using absorptive material for any required noise walls to reduce the effect of noise bounce back.</p>

1.3.3.2 Property Owners Consultation

This section summarizes focused meetings undertaken by Metrolinx with property owners during the TPAP phase.

1.3.3.2.1 Property Owner Meeting – Air Canada Centre

A meeting was held on August 21, 2017 with Maple Leaf Sports & Entertainment (MLSE) staff, four MLSE staff were in attendance. The purpose of the meeting was to introduce the potential need to install parallel barriers on MLSE property.

1.3.3.3 Indigenous Communities Consultation

This section summarizes consultation with Indigenous communities during the TPAP phase. Copies of Indigenous community correspondence received and meeting materials can be found in **Appendix L-8**.

1.3.3.3.1 Meetings with Indigenous Communities

Mississaugas of Scugog Island First Nation – August 23, 2017

On July 13, 2017 an email was received requesting a meeting with Metrolinx at Scugog Island First Nation. Subsequently a meeting was held on August 23, 2017. The purpose of this meeting was to provide a project update and review the TPAP timeline. An overview of the electrification infrastructure and vegetation removal requirements was provided. Cultural heritage and archaeology impact assessment work to date was discussed along with an overview of potential impacts to cultural heritage sites and the proposed mitigation measures. Metrolinx noted that the project is in the later stages of the TPAP and inquired as to whether there were any outstanding concerns as they relate to Metrolinx's responses to the comments on the draft EPR. Meeting attendees noted that their common concern always includes archaeology however noted that this project has a limited footprint and is contained to relatively developed land with limited archaeological or environmental potential.

Huron-Wendat Nation – September 6, 2017

A meeting was held with Huron-Wendat Nation on September 6, 2017. The purpose of this meeting was to discuss current and anticipated future Metrolinx projects, with focus on archaeological studies and reporting. An update on the Electrification project was provided including an update on archaeological work being conducted as part of the TPAP.

Please refer to Section 1.2.7.6 above for a summary of comments provided by Indigenous Communities specifically on the Draft EPR and how they were responded to.

1.3.4 Review Agency Consultation

1.3.4.1 Federal

This section summarizes the various consultation activities undertaken with federal review agencies during the TPAP phase. Copies of federal review agency correspondence received and meeting materials can be found in **Appendix L-10**.

Please refer to Section 1.2.7.2 above for a summary of comments provided by federal review agencies specifically on the Draft EPR and how they were responded to.

1.3.4.1.1 Parks Canada

Parks Canada Meeting Heritage Coordination Meeting #3 – June 26, 2017

The purpose of the meeting was to update project teams involved in various projects at Union Station and the trainshed, and to coordinate any approvals required in the Collateral and Easement Agreements.

At this meeting the GO Rail Network Electrification team confirmed that Parks Canada's draft EPR comments had been responded to, and was shared with meeting attendees. The Heritage Impact Assessment (HIA) for the electrification at Union Station trainshed was revised to address Parks Canada's comments, and the updated HIA was shared with Parks Canada (note that the HIA was prepared for the TPAP, and is not a formal submission under the Union Station Agreements). The HIA was also shared with meeting attendees as information.

The status of the other ongoing projects in USRC was also discussed.

Parks Canada Meeting – August 15, 2017

The purpose of this meeting was to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to Park Canada's comments on the draft EPR. Discussion points included the proposed modifications to the Union Station train shed, vegetation removal requirements and compensation protocol, visual impacts, noise mitigation, and Parks Canada's proposed works at Rouge Beach and their 9th Line Ecological Restoration project. With regards to the HIA completed for the proposed Electrification modifications inside the Union Station train shed, Metrolinx advised that the HIA was revised based on the draft EPR comments received from Parks Canada and that all appropriate federal approvals will be obtained per the Collateral Agreement, as required prior to the commencement of construction in the Union Station Trainshed.

In addition the Vegetation Compensation Protocol for RER projects, including Electrification, was discussed. It was noted that the Vegetation Compensation Protocol will be provided to stakeholders for review and that further consultation with Parks Canada on vegetation management on affected Parks Canada land, if any, will be undertaken as the project's design progresses. Parks Canada also requested that the following line be added to the EPR in regards to vegetation removal protocol:

The Rouge National Urban Park Best Management Practices for Tree Removal, Trimming, or Planting will be considered and incorporated into the final electrification design/construction plans to the extent possible as part of detailed design.

It was confirmed at the meeting that the Electrification EPR was updated to include assessment of visual impacts to the Rouge National Urban Park. It was noted by Parks Canada that comments made regarding visual impacts to the park were largely made in the context of cultural heritage value; as such, a Cultural Heritage Resource Impact Assessment will likely be required from Parks Canada during the Detailed Design Phase.

1.3.4.1.2 GTAA & NavCanada

GTAA and NavCanada Meeting – June 27, 2017

On June 27, 2017 Metrolinx staff meet with NavCanada and Greater Toronto Airports Authority staff to provide a project update and discuss any ongoing concerns as they relate to the project. The final EMI/EMF calculations, elevation calculations and grounding and bonding standards were discussed. It was noted that analysis of the expected EMI/EMF interference on airport communications and navigation and surveillance systems were completed. Metrolinx advised that they are reviewing the final EMI/EMF document and will provide GTAA and NavCanda with the information they have requested in relation to these issues.

1.3.4.2 It was discussed that a meeting between the parties responsible for implementation of safety elements for the Electrification project and the Pearson Airport EMS will be organized to coincide with the next meeting with GTAA and NavCanada. The TPAP schedule and next steps were discussed.

This section summarizes the various consultation activities undertaken with provincial review agencies during the TPAP phase. Copies of provincial review agency correspondence received and meeting materials can be found in **Appendix L-10**.

Please refer to Section 1.2.7.3 above for a summary of comments provided by provincial review agencies specifically on the Draft EPR and how they were responded to.

1.3.4.2.1 Ministry of Transportation (MTO)

On June 27, 2017 the Ministry of Transportation (MTO) provided Metrolinx with the information/materials Metrolinx requested in their response to MTO's draft EPR comments. The information provided will be reviewed as applicable during detailed design.

1.3.4.2.2 Ministry of Tourism, Culture and Sport (MTCS)

A meeting was held with the Ministry of Tourism, Culture and Sport (MTCS) on August 10, 2017. The purpose of the meeting was to provide a project update and discuss any ongoing concerns as they relate

to Metrolinx's responses to MTCS's comments on the draft EPR. Primary discussion points included status of all CHERs and HIAs completed to date, HIA recommendations, Stage 1 and Stage 2 Archaeological Assessment work completed, bridge barriers, and cultural heritage and archaeological consultation efforts to date. MTCS noted that in general they were satisfied with the draft EPR responses provided by Metrolinx. It was advised that all CHERs completed for the Electrification TPAP had been provided to MTCS. The final Credit River HIA and a table of archaeological assessment work completed to date was transmitted to MTCS following the meeting on August 18, 2017.

Please refer to Section 1.2.7.3 above for a summary of comments provided by provincial review agencies specifically on the Draft EPR and how they were responded to.

1.3.4.2.3 Ministry of the Environment and Climate Change (MOECC)

A meeting was held with the Ministry of the Environment and Climate Change (MOECC) on August 16, 2017. The purpose of the meeting was to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to MOECC's comments on the draft EPR. Review of MOECC's additional comments on the draft Noise and Vibration Impact Assessment report conducted as part of the Electrification TPAP were reviewed. Per the response to MOECC's draft EPR comment 11, MOECC was provided with a copy of the completed Groundwater Impact Assessment report on August 25, 2017. Comments on the Groundwater Impact Assessment report were requested.

Following the meeting Metrolinx provided MOECC with a revised version of the draft EPR comment/response table originally provided to MOECC on July 28, 2017. The updated comment/response table (**Table 1-21**) captured the Metrolinx commitments made during the August 16, 2017 meeting. The revised comment/response table also corrected the transcript errors found within the previous July 28, 2017 version. The revised table was provided by email on September 14, 2017.

1.3.4.3 Municipal

This section summarizes the various consultation activities undertaken with municipal review agencies during the TPAP phase. Copies of municipal review agency correspondence received and meeting materials can be found in **Appendix L-9**.

Please refer to Section 1.2.7.4 above for a summary of comments provided by municipal review agencies specifically on the Draft EPR and how they were responded to.

1.3.4.3.1 City of Barrie

The purpose of this meeting held on August 2, 2017 was to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to the City of Barrie's comments on the draft EPR. Primary discussion points included the Noise and Vibration Assessment completed for the Barrie Corridor, the Barrie-Collingwood Railway 2X25kV Feeder Route, grade separations, Metrolinx's Vegetation Compensation Protocol, status of Cultural Heritage and Archaeological Assessments, and bridge modifications.

The City of Barrie reiterated their preference for burying the Barrie-Collingwood Railway (BCRY) 2X25kV Feeder Route. Metrolinx advised that further discussions/agreements during Detailed Design will be undertaken to establish the preferred design in coordination with the City/BCRY.

Bridge modifications for Big Bay Point Road Bridge were also discussed, as well as the need to update bridge maintenance agreements. The City advised that there are future plans to widen or potentially replace the bridge. It was acknowledged that continued coordination between the City of Barrie and Metrolinx would be required.

An update on TPAP next steps was provided by Metrolinx. City of Barrie inquired about the construction timeline for the Barrie Corridor and status of the Hydrogen Feasibility Study. Metrolinx informed that a definitive construction schedule is yet to be determined for the Barrie Corridor and that the Hydrogen Feasibility Study was underway, separate from the Electrification TPAP.

1.3.4.3.2 Town of Innisfil

A meeting was held on August 2, 2017 to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to the Town of Innisfil's comments on the draft EPR. Primary discussion points included the location of the Gilford PS, Innisfil Trail Master Plan, status of Cultural Heritage and Archaeological Assessments, and bridge modifications.

The Town of Innisfil reiterated their preference for the Gilford PS site to be moved to another location due to proximity to the Gilford Village Settlement Area. Metrolinx provided an overview of the restrictions/limitations of the alternative sites suggested by the Town at 2nd Line and 14th Line as explained in the correspondence issued by Metrolinx on June 15, 2017 (see summary provided in **Table 1-42**).

Limitations at 2nd Line include:

- Metrolinx was unable to obtain the landowner's consent to purchase the property from the landowner.
- No other viable siting options due to a Provincially Significant Wetland (PSW) in the vicinity.
- Expropriation was considered but ruled out due to available Metrolinx owned property that met facility requirements south of Gilford Road.

Limitations for 14th Line include:

- Significant existing vegetation.
- Longer access road- more tree removal, grading work/materials cost.
- Land not owned by Metrolinx.
- Significant topographic grade differences.

Metrolinx noted that the proposed location for the Gilford PS site was presented at Public Meetings #2 and #3. In addition to advertisements in local newspapers for the public meetings, notification to adjacent

landowners within 100 m of the rail corridor was also provided. No concerns regarding the proposed location of the Gilford PS site have been received to date from local residents.

In acknowledgment of the Town of Innisfil's concerns Metrolinx agreed to prepare an information package providing additional visual mitigation examples. In addition, a commitment to work with the Town during detail design on visual screening would be included in the EPR.

With regards to the Innisfil Trails Master Plan, it was advised that Metrolinx does not foresee any conflicts between the new trail network and the proposed Electrification project at this time.

Bridge modifications at 6th Line Bridge were also discussed, as well as the need to update bridge maintenance agreements. The Town advised that there is potential to twin the existing bridge. It was acknowledged that continued coordination between the Town of Innisfil and Metrolinx would be required. An update on TPAP next steps was provided by Metrolinx.

1.3.4.3.3 City of Markham

The purpose of the meeting held on August 1, 2017 was to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to the City's comments on the draft EPR. Primary discussion points included the location of the Unionville PS, parallel barriers, bridge barriers, vegetation compensation protocol and status of the Cultural Heritage Assessment. The City's concerns with regards to the location of the proposed Unionville PS in relation to the Miller Avenue extension was originally communicated via email on March 30, 2016 and as a comment on the draft EPR. With respect to access to the Unionville PS, Metrolinx reiterated at the meeting that the proposed access route as shown on Figure 3-48 in EPR Vol. 1 was further refined from previous correspondence dated July 28, 2016. Access to the Unionville PS site will utilize the existing driveway to the Alectra Substation property located to the east. The Miller Avenue extension and potential grade separation over the rail corridor does not preclude the Unionville PS being located on the proposed site however, final details regarding the access route will need to be coordinated with the City and Infrastructure Ontario as both designs progress.

With respect to the proposed site for the Unionville PS, Metrolinx reiterated that as outlined in the July 28, 2016 response to the City's March 2016 comments:

A review of the Miller Avenue EA as well as the sketch provided as part of your March 30th correspondence was undertaken which identifies the proposed Miller Avenue extension, preferred 407 Transitway alignment (north of 407), as well as the City of Markham's suggested alternative alignment (south of 407). These alignments, as well as the proposed Unionville Paralleling Station (PS) are shown on the attached map. It is our understanding that the preferred 407 Transitway alignment is north of the 407 as established through the 407 Transitway from east of Highway 400 to Kennedy Road Transit Project Assessment Process (TPAP), which received EA approval in February 2011. Based on the available information, the proposed Unionville PS is not anticipated to preclude the implementation of the proposed Miller Avenue extension and/or the future 407 Transitway alignment, including the preferred and alternative alignments provided.

In addition, Metrolinx is actively consulting with the Ministry of Transportation (MTO) as part of this project to ensure no conflicts with the proposed design with any potential future expansion plans. At present, MTO has not advised of any potential conflicts with respect to the proposed Unionville PS site.

City of Markham advised that the slope of the embankment for the future Miller Avenue extension/grade separation may be too close to the proposed Unionville PS site, staff inquired as to why the site could not be shifted as part of the TPAP. Metrolinx staff advised that the PS site layout is conceptual allowing for flexibility during Detail Design, and that a commitment for further coordination/consultation during Detail Design will be included in the Final EPR. Metrolinx requested that the City provide additional details regarding the anticipated footprint of the future grade separation/retaining wall for further review by the Project Team during detailed design.

Bridge modifications at 14th Avenue Tunnel, as well as the Highway 407 East and West Structures (owned by MTO) were also discussed. The City of Markham noted that they would like consideration to be given for protecting views on the Highway 407 structures due to adjacent planned development. Metrolinx noted that they are actively consulting with MTO on the proposed bridge barrier solution and will need to conform with their standards.

The Hydrogen Feasibility Study was also discussed at the meeting. Metrolinx advised that the study would be completed in tandem with the Electrification TPAP, and the output of this study will be used to inform the decision regarding which technology will be used to electrify the GO network.

1.3.4.3.4 City of Toronto

Union Station Heritage Coordination Meeting #3

This meeting held on June 26, 2017 was a follow-up to the previous May 2, 2017 heritage coordination meeting (see section 1.2.5.3.3). The purpose of this meeting was to continue discussions on coordinating project works at Union Station. Metrolinx advised that the revised Heritage Impact Assessment (HIA) for the Union Station Trainshed, completed as part of the Electrification TPAP, will be sent to Parks Canada for information in early July.

Union Station Heritage Coordination Meeting #4

This meeting held on July 24, 2017 was a follow-up to the previous June 26, 2017 heritage coordination meeting. The purpose of this meeting was to continue discussions on coordinating project works at Union Station. Metrolinx advised that the revised Heritage Impact Assessment (HIA) for the Union Station Trainshed was updated to reflect the comments received from Parks Canada and will be provided as part of the Final Electrification EPR. The final responses provided to Parks Canada on July 12, 2017 to address their comments on the Union Station HIA were shared with the meeting group.

On August 17, 2017, Metrolinx sent a memorandum to the City of Toronto that contained updates on the Electrification Project that have occurred since the previous meeting with the City on April 24, 2017. The memorandum contained 3 attachments: an attachment on bridge barriers, including design renderings

and a list of all impacted bridges based on potential visual impact; an attachment on bridge attachments for the fastening of feeder cables; and an attachment on parallel barriers, including locations where they may be required. Metrolinx requested that the City provide feedback on this memorandum in advance of the next Technical Advisory Committee meeting.

Technical Advisory Committee Meeting #13

Please refer to Section 1.2.5.3.3 above for a summary of the Technical Advisory Committee meetings (Technical Advisory Committee Meetings 1-12) held during the pre-planning phase. The purpose of this meeting was to provide an update on the Electrification Project, discuss the next steps regarding bridge design and electrification infrastructure design and discuss any ongoing concerns as they relate to Metrolinx's responses to the City of Toronto's comments on the draft EPR. Bridge barrier design options were discussed and example images were provided. City of Toronto noted that it is not clear how the City will be involved in PSOS and design review of the electrification infrastructure. Metrolinx advised post meeting that they are working with Infrastructure Ontario and the City to determine the best consultation strategy moving forward with regards to contract documents and design review as it relates to those sections of the PSOS that concern the City's infrastructure. Following the meeting a spreadsheet containing the locations of bridges in relation to adjacent land uses was provided to the City. Requirements for parallel barriers where structures run parallel to the tracks were also discussed. An overview of each location in the City where a parallel barrier is needed was provided. Vegetation compensation was discussed and the City of Toronto advised that they would like to be involved in the development of the final Tree/Vegetation Compensation Protocol.

1.3.4.3.5 City of Vaughan

A meeting was held on August 4, 2017 to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to the City of Vaughan's comments on the draft EPR. Primary discussion points included the location of the Maple PS, parallel barriers, bridge barriers, Vegetation Compensation Protocol, and status of Cultural Heritage and Archaeological Assessments.

Acknowledgment of City's plans for potential Stormwater Management Pond in the vicinity of the propped Maple PS site was provided. The location of pond had been previously requested by Metrolinx from the City but was not provided to date. Metrolinx will continue coordination with the City to ensure there are not conflicts during detailed design.

The City of Vaughan also raised some concerns regarding the potential visual impact of the Maple PS site on future planned development as part of the Block 27 Secondary Plan. Metrolinx agreed to prepare an information package providing additional visual mitigation examples. In addition, a commitment to work with the City during detail design on visual screening would be included in the EPR. It was also agreed that further coordination regarding access to the Maple PS site off of Keele Street would be required during detail design.

Metrolinx further outlined the requirements for parallel barriers, as well as bridge modifications required at the Keele Street Overhead Bridge.

The Hydrogen Feasibility Study was also discussed at the meeting. Metrolinx advised that the study would be completed and the output of this study will be used to inform the decision regarding which technology will be used to electrify the GO network.

Please refer to Section 1.2.7.4 above for a summary of comments provided by municipal review agencies specifically on the Draft EPR and how they were responded to.

1.3.4.3.6 City of Mississauga

On September 7, 2017 Metrolinx provided City of Mississauga staff with an advanced copy of the Heritage Impact Assessment (HIA) undertaken for the Credit River Bridge. In an email received September 18, 2017 City of Mississauga provided comments on the HIA, advising that the HIA incorrectly states that the bridge is not currently listed under the Ontario Heritage Act. The City also advised that Credit River Bridge is currently listed on the City's Heritage Register. A response was provided on September 25, 2017 (see **Table 1-66**).

Visual Impact Information Packages

As a follow up to the August 2017 meetings held with City of Vaughan and the Town of Innisfil, information packages were sent via email on September 25, 2017 prior to the Notice of Completion. The purpose of the packages was to provide the municipalities with information on the visual impacts anticipated from the siting of the TPFs and to provide an overview of the commitments included in the EPR regarding visual mitigation at TPFs. Images of example screening measures were included.

The municipalities were also provided with the draft meeting materials for the August 2017 meetings. Copies of the visual impact information packages can be found in **Appendinx L-9**.

1.3.4.4 Conservation Authorities

Please refer to Section 1.2.7.5 above for a summary of comments provided by conservation authorities specifically on the Draft EPR and how they were responded to.

1.3.4.5 Other Stakeholders

Please refer to Section 1.2.7.7 above for a summary of comments provided by other stakeholders specifically on the Draft EPR and how they were responded to.

1.3.4.5.1 CN Rail

A meeting was held on September 6, 2017 to provide a project update and discuss any ongoing concerns as they relate to Metrolinx's responses to CN Rail's comments on the draft EPR. In addition, the meeting was held to review impacts of electrification and discuss possible mitigation and next steps.

Electrification infrastructure including bridge barrier and OCS placement and maintenance were

discussed, with specific focus on potential Electrification infrastructure on CN property. CN Rail raised concern with potential mitigation measures requiring encroachment on CN owned property. Metrolinx advised that the project is in the initial planning phase and the Electrification team will not proceed with any mitigation measures without CN Rail agreement. Furthermore it is expected that only maintenance would be affected and Metrolinx is open to providing CN Rail with the necessary resources and training required.

CN Rail provided follow-up questions to Metrolinx's responses to CN Rail's draft EPR comments in a letter dated July 6, 2017. The follow-up questions were discussed at the meeting and Metrolinx provided their final responses in a letter dated September 15, 2017.

CN Rail raised concern with fault events and suggested that the following studies be completed; Study of Potential Rise in Subsations and Study of the Impact of a Potential Fault. Metrolinx advised that they would be willing the undertake the studies necessary to allay CN Rail's concerns and better mitigate any impacts.

1.3.4.5.2 NAVCanada

On September 12, 2017 the NAVCan provided Metrolinx with the information/materials Metrolinx requested in their response to NAVCan's draft EPR follow up comments (refer to **Table 1-66**). The information provided will be reviewed as applicable during detailed design.

1.3.4.5.3 Third Party Utility Owners

A record of all correspondence and meetings with utility owners including municipalities and regional authorities is provided in **Appendix I**.

Refer to **Table 1-66** for a summary of comments provided by Other Stakeholders (Utility companies, etc.) and how they were responded to.

1.3.4.6 Summary of Review Agency Comments Received

Table 1-66 summarizes the key issues/comments/questions related to electrification that were raised by Federal, Provincial, Municipal and other Review Agencies during the TPAP phase, and how they were considered by Metrolinx. Copies of correspondence received from Review Agencies can be found in **Appendix L-9 to L-11**.

Table 1-66: Summary of TPAP Phase Review Agency Comments Received

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx								
FEDERAL AGENCIES											
Canadian Environmental Assessment Agency	TPAP Phase	For clarification, were your responses of “no” to our questions about the project based on the total length of ROW, rail yards and yard tracks of all lines and corridors noted in the Electrification project study area?	In response to your question of clarification, we have indicated “no” in our responses to item #2 within the comment/response table (re-attached for reference), as the GO Rail Network Electrification undertaking does not entail the construction, operation, decommissioning and/or abandonment of any new rail lines. To further clarify, the Electrification project entails construction/operation of the infrastructure required for electrification of approximately 250kms of existing rail lines within the GO Rail network. The project works associated with the Electrification undertaking do not include the construction of new tracks or railway yards.								
		<p>Thank you for the response indicating that the GO Rail Network Electrification Project would not apply to our Regulations Designating Physical Activities (the Regulations).</p> <p>We request that you keep in mind the requirements of the Canadian Environmental Assessment Act, 2012 (CEAA 2012), including the Regulations, or any future federal environmental assessment act given the ongoing environmental assessment review process.</p> <p>Should any changes be made to the design of the project such that any of its components is a designated activity under CEAA 2012, kindly contact the Agency prior to seeking federal regulatory approvals under any other federal legislative framework.</p>	Thanks for your reply, much appreciated.								
Greater Toronto Airports Authority & NAVCanada	TPAP Phase	I can’t seem to find any record of a follow-up transmittal of documents that the GTAA requires to be included in the PSOS, as was referenced in our Feb.28/17 letter to James Hartley. Accordingly, I am assembling these and will transmit to you and Rick by Thursday.	<p>As a follow up to our meeting on June 27th, we have provided the following updated response to NavCan’s comment below (originally submitted as part of your Draft EPR comments to MX):</p> <table><tr><td colspan="4">Up Express March 10, 2014 Letter</td></tr><tr><td>2a.</td><td>UP Express - EMI</td><td>As discussed at previous NAV CANADA/GTAA/MetroLinx meetings, the issue of electromagnetic interference (EMI) generated by the proposed ARL – specifically, the potential impact on existing NAV CANADA communications, navigation, and surveillance (CNS) facilities – will be addressed in the EMI/EMF assessment and the EMC Control plan to be developed by</td><td><p>For your information and reference, the baseline EMI/EMF measurements taken as part of the UP Express Electrification TPAP are documented in the UP Express EMC Report (March, 2014) that was included as Appendix H to the EPR. A copy of this report can be found online here:</p><p>http://www.gotransit.com/electrification/en/project_history/default.aspx</p><p>In addition, the baseline EMI/EMF measurements taken as part of the current GO Rail Network Electrification TPAP are documented in the Draft Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report (January 2017) that was included as Appendix J to the EPR. A copy of this report as well as the EPR was provided to NavCan on January 18, 2017.</p><p>As the next step in the process, and as part of detailed design, the Contractor will be responsible for taking additional measurements to</p></td></tr></table>	Up Express March 10, 2014 Letter				2a.	UP Express - EMI	As discussed at previous NAV CANADA/GTAA/MetroLinx meetings, the issue of electromagnetic interference (EMI) generated by the proposed ARL – specifically, the potential impact on existing NAV CANADA communications, navigation, and surveillance (CNS) facilities – will be addressed in the EMI/EMF assessment and the EMC Control plan to be developed by	<p>For your information and reference, the baseline EMI/EMF measurements taken as part of the UP Express Electrification TPAP are documented in the UP Express EMC Report (March, 2014) that was included as Appendix H to the EPR. A copy of this report can be found online here:</p> <p>http://www.gotransit.com/electrification/en/project_history/default.aspx</p> <p>In addition, the baseline EMI/EMF measurements taken as part of the current GO Rail Network Electrification TPAP are documented in the Draft Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report (January 2017) that was included as Appendix J to the EPR. A copy of this report as well as the EPR was provided to NavCan on January 18, 2017.</p> <p>As the next step in the process, and as part of detailed design, the Contractor will be responsible for taking additional measurements to</p>
Up Express March 10, 2014 Letter											
2a.	UP Express - EMI	As discussed at previous NAV CANADA/GTAA/MetroLinx meetings, the issue of electromagnetic interference (EMI) generated by the proposed ARL – specifically, the potential impact on existing NAV CANADA communications, navigation, and surveillance (CNS) facilities – will be addressed in the EMI/EMF assessment and the EMC Control plan to be developed by	<p>For your information and reference, the baseline EMI/EMF measurements taken as part of the UP Express Electrification TPAP are documented in the UP Express EMC Report (March, 2014) that was included as Appendix H to the EPR. A copy of this report can be found online here:</p> <p>http://www.gotransit.com/electrification/en/project_history/default.aspx</p> <p>In addition, the baseline EMI/EMF measurements taken as part of the current GO Rail Network Electrification TPAP are documented in the Draft Electromagnetic Interference/Electromagnetic Fields (EMI/EMF) Report (January 2017) that was included as Appendix J to the EPR. A copy of this report as well as the EPR was provided to NavCan on January 18, 2017.</p> <p>As the next step in the process, and as part of detailed design, the Contractor will be responsible for taking additional measurements to</p>								

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx			
					<p>MetroLinx. The EMI/EMF assessment must take into consideration CNS system performance specifications as per the current International Civil Aviation Organization (ICAO) Annex 10 (Aeronautical Telecommunication - International Standards & Recommended Practices). Below are the minimum signal field strength and the maximum tolerable noise levels taken from Annex 10 for a few existing operational CNS system at Pearson International Airport (CYYZ).</p> <p>VHF Air Traffic Control (ATC) Voice Communication Receivers (Annex 10, Volume 3, Part II, Section 2.2 & 2.3)</p> <p>o Any undesired signal must be 15 dB below 20 uV/m (which is a minimum acceptable signal throughout the service volume). In addition, a 10 dB margin is required to account for noise from other sources from within surrounding area.</p> <ul style="list-style-type: none">• Instrument Landing System (ILS) including Localizer and Glidepath (Annex 10, Volume 1, Section 3.1) <p>o Minimum signal of 40 uV/m is required within the ILS service volume.</p>	<p>verify baseline EMI levels along the Kitchener/UP Express corridor, including identification/consideration of all operational CNS and VHF ATC Voice Communication Receivers to verify that emission and noise levels will be in compliance with ICAO Annex 10 requirements.</p> <p>The expected impacts on the CNS facilities from emissions and noise levels from train operations will be calculated through the application of methodologies developed by prior studies, and will use actual distance, frequency and signal strength values for the identified CNS equipment.</p> <p>The requirement to determine actual EMI values and impacts on the CNS and VHF ATC Voice Communication Receivers and validate that they meet all of the ICAO Annex 10 requirements under full UP Express operating conditions will be included as a requirement in the contract documents.</p> <p>The results of the calculations to verify existing EMI levels and any necessary updates to the EMC Control Plan Report(s) will be provided to NAV CANADA prior to completion of the procurement process.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx			
					<p>o In addition, NAV CANADA Flight Inspection standard require that any interference signals present within ILS service volume must not exceed 24.5 dBuV/m or 16.8 uV/m as part of the ILS operational certification.</p> <p>Distance Measuring Equipment (DME) (Annex 10, Volume 1, Section 3.5.4)</p> <p>o Peak equivalent isotropically radiated power shall ensure -89 dBW/m² within collocated ILS service volume</p> <p>o Receiver shall trigger transponder at -103 dBW/m² received peak power density;</p> <p>o Recommendation: "Protection against interference outside the DME frequency band should be adequate for the sites at which the transponders will be used."</p> <p>Multilateration (MLAT) information is being requested and will follow.</p>	
CN Rail	TPAP Phase	Electrical Induction impacts are expected to negatively affect CN’s corridor into Oshawa due to its close proximity and parallel routing.	<p>It is recognized that electrification of the GO Network will entail certain modifications to the operations/maintenance practices of Canadian National Railway. Metrolinx will continue to coordinate and consult with CN as appropriate during detailed design where there are interfaces with freight territory.</p> <p>Specifically, there will be locations where electrification will affect CN Corridors. Generally, areas within 10 m of the centerline of an electrified track or electrification conductor may be affected. The exact limits of these potential impacts will not be known until final design of the electrification system is complete. Metrolinx will continue to coordinate and consult with CN as part of the detailed design phase.</p>			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>In all cases, these locations will require technical analysis to determine the extent of the impacts and a mitigation method will be developed in coordination with CN and subsequently implemented. Mitigation methods may include: replacing the existing signal system with electrification compatible signal equipment, and the installation of bonding and grounding equipment. Metrolinx is committed to ensuring CN requirements are addressed through the execution of a binding agreement.</p> <p>Metrolinx will continue to coordinate and consult with CN as appropriate during detailed design where there are interfaces with freight territory.</p> <ul style="list-style-type: none">Track Circuits & Grade Crossings that need to be made electrification compatible will be addressed in the provisions of the EMC Control Plan that will be developed during detailed design. The EMC control plan will address:<ul style="list-style-type: none">Where track is adjacent to Metrolinx electrification<ul style="list-style-type: none">Within Overhead Contact Line Zone (OCLZ).Possibly beyond the OCLZ for induced effects (range will be confirmed during detailed design).Where electrified track crosses over (considered within OCLZ)Where electrified track abuts non-electrified track<ul style="list-style-type: none">Electrified track to third party owned interface locations.Electrified track to third party unsignalled track (e.g. yards) requires TPS return.Immunization includes compatible track circuits, impedance bonds as well as bonding & grounding for TPS currents (this will be included in the provisions of the EMC Control Plan to be developed during detailed design).Rail operations:<ul style="list-style-type: none">Crew Safety Training will be required (various safety, training, and protocols will need to be established as required, with respect to operating in an electrified railway environment). <p>Metrolinx will work with CN in the development of the EMC plan to address Electromagnetic Interference(EMI), Electromagnetic Compatibility (EMC), and Electric Safety.</p>
		Possible infringement into CN’s easement for the catenary poles along the rail corridor into Oshawa	<p>It is recognized that electrification of the GO Network will entail certain modifications to the operations/maintenance practices of Canadian National Railway. Metrolinx will continue to coordinate and consult with CN as appropriate during detailed design where there are interfaces with freight territory.</p> <p>The exact location of possible encroachment of electrification infrastructure onto CN property will be determined as part of final design of the electrification system. Metrolinx will continue to coordinate and consult with CN as part of the detailed design phase. Based on an initial examination of the corridors, there are locations where encroachment onto CN property will be difficult to avoid and encroachments (which are not expected to impact CN operational clearance requirements), will be necessary. An agreement between CN and Metrolinx will be necessary before any CN encroachment will be allowed.</p> <p>Based on the current conceptual design, a preliminary assessment of areas where OCS structures may be required to span over non-electrified freight-owned tracks (i.e., where there is not enough space between the freight tracks and GO tracks</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			to place an OCS foundation) was carried out and the following areas were identified: an agreement with the CN will be required in order to implement/operate the 2X25kV Bramalea feeder route along the Kitchener rail corridor.
		The proposed electrification of the CN corridor into Bramalea Station which CN has informed Metrolinx in the past that CN will not accommodate.	CN’s objection to electrification over CN owned tracks has been noted. Metrolinx is continuing to study the environmental impacts of electrifying to Bramalea with the intent of coming to an agreement with CN for this proposed work.
		What are the induction impacts on the track, signals and long trains where CN freight trains and VIA passenger trains run in close proximity to the GO tracks?	Induction impacts are discussed to the answer to question 1 above. There are no expected impacts to long trains.
		What are the induction impacts on connecting tracks? (i.e. York Sub. To Newmarket Sub.)?	Answer: The impacts on connecting tracks are included in the response to item 1 above.
		What are the impacts on CN fiber cables and signal systems?	There will be no impacts on the CN fiber optic cables. Potential impacts to the signal system are discussed in the answer to question 1 above. The detailed analysis to be undertaken as part of detailed design will result in recommendations to implement mitigation measures and modifications to the CN signals system.
Parks Canada	TPAP Phase	As requested at the Parks Canada/Metrolinx meeting of August 15 and subsequently in writing , I am writing in response to Metrolinx’s request that Parks Canada submit a statement regarding its “concurrence” with Metrolinx’s July 12, 2017 response to Parks Canada’s February 28, 2017 submission on the GO Electrification EPR as it pertains to Rouge National Urban Park. As you know, the GO Stouffville corridor and Lakeshore East corridor lines traverse different sections of the park, in northern Markham and the Rouge Beach/River area respectively.	Acknowledged. Metrolinx confirms that the location of the RNUP in relation to the Stouffville and Lakeshore East rail corridors are referenced through the Environmental Project Report.
		At the August 15 meeting Parks Canada indicated it would prefer to review the minutes of that meeting before providing any conclusions regarding concurrence. (We note that the holding of this meeting fulfills a commitment made in Response 4.) With this caveat, we offer the following concurrence with the July 12 response and its adequacy, conditional on the confirmation of the following key commitments extracted from the Metrolinx “Responses” document: a) That the final minutes reflect the input Parks Canada provided to Metrolinx (sent on September 15, 2017).	Please find attached the updated Meeting Minutes reflecting Parks Canada input/comments.
		b) That the 2014 draft management plan be referenced and its guidance be considered (responses 1, 10, 36, 70, 104)	Metrolinx confirms that the 2014 draft Rouge National Urban Park Management Plan is specifically referenced in the GO Rail Network Electrification EPR in the section describing EA commitments pertaining to Parks Canada – Rouge National Urban Park as follows: TPAP Commitments – Rouge National Urban Park (Parks Canada) The following commitments will be adhered to as part of future project phases (i.e., detailed design, construction) with respect to areas of the Stouffville and Lakeshore East GO rail corridors that traverse through the Rouge National Urban Park (RNUP) limits. <ul style="list-style-type: none">During detailed design, efforts will be made to minimize visual effects of the Overhead Contact System (OCS) infrastructure as much as possible within RNUP. Visual impact mitigation strategies for OCS will be identified and incorporated into the final design process. These strategies will address the range of visual conditions, area allocations, and mitigation needs that will be found along the corridor. Areas of ‘high’ visual impact will be identified and specific design measures will be incorporated to mitigate visual impacts of OCS. Best design practices will be followed for designing OCS in order to minimize visual impacts as much as possible particularly in areas around RNUP.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Undertake ongoing consultation with Parks Canada regarding effects and mitigation relating to Rouge National Urban Park (e.g., cultural landscape/visual effects, natural environment, noise mitigation) as part of detailed design.The extent of vegetation removal will be confirmed during detail design. Further consultation and coordination with Parks Canada for any proposed tree/vegetation removals beyond Metrolinx property/on Parks Canada land (if applicable) will be undertaken during detailed design and any required approvals will be obtained from Parks Canada. Metrolinx will also consult with Parks Canada regarding requirements for vegetation management plans affecting Parks Canada land as/if appropriate.A meeting/briefing with Parks Canada Resource Conservation staff must precede any tree removal/pruning activities.The “Rouge National Urban Park Best Management Practices for Tree Removal, Trimming, or Planting” will be considered and incorporated into the final electrification design/construction plans to the extent possible as part of detailed design.The Butternut tree is protected under the federal Species at Risk Act (SARA). The presence/absence of Butternuts will be confirmed during detailed tree inventories completed as part of Detail Design. Should any Butternuts be found during tree inventories, appropriate approvals under SARA will be obtained. Parks Canada will also be notified in the event any Butternut trees are identified within Rouge National Urban Park.A Cultural Heritage Resource Impact Assessment for Rouge National Urban Park will likely need to be completed during detailed design; this requirement will be confirmed through further consultation with Parks Canada during detailed design. Typically this assessment is completed by Parks Canada with participation/input from the project proponent (e.g., Metrolinx) and with involvement of a Licensed Archaeologist.
		c) The follow-up on the 9th Line ecological restoration project (responses 1, 8, and as per notes of August 15 meeting).	This topic was discussed under Item 4 of the August 15th minutes. Parks Canada and Metrolinx will continue to work together in relation to the planned ecological restoration activities around 9th line/STV rail corridor. It is noted that the activities proposed by PC are outside the scope of the Electrification TPAP/Project.
		d) Review and update of either/or both visual impact assessment and cultural heritage impact assessment (responses 2, 4, 11, 39, 42, 47, various other references). As discussed at the August 15 meeting, Metrolinx will identify a commitment to undergo a Parks Canada Cultural Resources Impact Assessment addressing the Stouffville corridor crossing of Rouge National Urban Park.	As indicated in Metrolinx’s responses to Parks Canada on the Draft EPR, the Environmental Project Report, Visual Impact Assessment Report (EPR Appendix H) and Cultural Heritage Impact Assessment Report (EPR Appendix C) have all been updated to reflect recognition and potential effects (as appropriate) as it relates to the RNUP. The revised copies of these documents will be posted publically for 30-day review starting on October 11, 2017 upon issuance of the Notice of Completion to Metrolinx’s project website and FTP site. Notification will be provided to Parks Canada of the Notice of Completion and posting of the EPR and Appendices. Please see response to item 2b) above.
		e) Additional references to Rouge National Urban Park and inclusion on mapping (various responses).	The RNUP has been added to: the Cultural Heritage Resources Mapping (EPR Appendices C & Q), Visual Impact Assessment Mapping (EPR Appendices H & T), Land Use Mapping (EPR Appendices E & R), Natural Environmental Mapping (EPR Appendices A & P). The revised copies of these documents will be posted publically for 30-day review starting on October 11, 2017 upon issuance of the Notice of Completion to Metrolinx’s project website and FTP site. Notification will be provided to Parks Canada of the Notice of Completion and posting of the EPR and Appendices. In addition, please see response to item 2b) above.
		f) The federal Species of Risk Act will be referenced and explained (Response 46).	Please see response to item 2b) above.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		To expand on Response 43, any impacts that may occur to Parks Canada resources, including the land adjacent to the right-of-way, local flora or fauna using park land as habitat, and waterways must be mitigated. As per the Guidelines to the Parks Canada Impact Analysis Process, there are multiple pathways that could be used to achieve mitigation. As discussed at the August 15 meeting, the Alternate Processes do not apply to this project. As long as impacts are known and well-understood, the Best Management Practice pathway will most likely provide mitigation measures for impacts of this project. Please find appended Parks Canada’s “Rouge National Urban Park Best Management Practices for Tree Removal, Trimming, or Planting” document Metrolinx requested in Response 5 and the "Best Management Practice for Common Activities" document for your reference. Parks Canada staff will assist Metrolinx staff in determining if this pathway provides mitigation for all impacts and if supplementary measures are required. Should Metrolinx and Parks Canada agree to apply these practices to mitigate impacts to resources administered by Parks Canada, a briefing with Parks Canada Resource Conservation staff must precede any activity.	Thank you for providing a copy of these documents. They will be further reviewed as part of the detailed design phase. In addition, please see response to item 2b) above.
PROVINCIAL AGENCIES			
Ministry of the Environment and Climate Change	TPAP Phase	<p>Item No. 29:</p> <p>For this project, there are four different types of acoustic barriers, namely: existing barriers not subject to retrofit; existing barriers subject to retrofit; future barriers deemed not feasible; and future barriers deemed feasible. These four types of noise barriers should be depicted in figures that clearly show their locations, lengths and heights. For clarity and ease of reference, each type of barrier can be shown in a separate set of figures.</p>	<p>RWDI to revise the legend in the Noise and Vibratrion Report figures to clarify that the noise barriers are assumed to be 5m in height. This will also be reflected in the figures and text in the EPR.</p> <p>Metrolinx/RWDI confirmed that figures in the Noise and Vibration Report do depict the three types of noise barriers (exisitng barriers subject to retrofit; exisitng noise barriers not subject to retrofit; future barriers deemed feasible). The revised reports have been updated to omit the non-technically feasible noise mitigation / barrier locations. The dimensions for all three barriers will not be included in the figures as it will overcrowd the figures with too much information. A note will be added to the legend to indicate to the reader that barrier detail (including lengths) can be found in the Tables.</p> <p>Language will be added to allow for modification if required during detailed design.</p> <p>Metrolinx to include language in the EPR that it committs to constructing noise walls. This committment will be carried forward to the contract.</p>
		<p>Item No. 31:</p> <p>Existing vibration levels should be measured at locations representative of all the vibration sensitive land uses on both sides of the corridor, since GO, VIA and CN trains are currently travelling along the entire rail corridor. Future vibration levels can be predicted using the FTA Manual (2012).</p>	<p>RWDI clarified that a limited number of relevant representative receptor locations were used for the Lakeshore East Corridor (amongst hundreds of other across all of the corridors) expansion for new track. MOECC advised that this methodology is not easily defensible.</p> <p>Metrolinx will include text in the EPR committing to reviewing the vibration assessment as the design is refined, including a committment to complete existing vibration measurements for new infrastructure at relevant representative locations and a reasonable number of additional reasonable representative receptor locations.</p>
		<p>Item No. 32:</p> <p>More receptors (than the six selected receptors) should be selected to represent the vibration sensitive land uses along the length of the rail corridor with new tracks and/or with special track works (switches). The selected receptors should include the existing buildings and planned buildings. The selected receptors should be investigated for vibration impacts due to train operations and how they compare to the limits set for perception in the 1995 Protocol, and for vibration impacts due to construction and how they compare to the limits set for annoyance and structural damage in the 2012 FTA Manual</p>	<p>RWDI/Metrolinx confirmed that approved development information was requested from the varous municipalities across the five corridors and incorporated draft plans of subdivision as receptors. Not all municipalities responded or provided sufficient information to support the assessment.</p> <p>Metrolinx will include text in the EPR that new municipal development information will be considered if it is received from municipalities during detail design. Metrolinx also noted that if the EA is approved before new developments, the onus for mitigation will be on the developer.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx		
		Item No. 33: Specific vibration control measures (ballast mats, under sleeper pads, or resilient fixation,...) should be recommended for the sections of the rail corridor impacting vibration sensitive land uses. Furthermore, figures should be provided to clearly show the locations and extents of the recommended vibration control measures.	The reports will be updated to identify a preferred form of vibration mitigation including rationale for why it is preferred, as well as alternative options, subject to refinement during detailed design. Figures will be revised to clearly show the locations and extents of the recommended vibration control measures.		
		Item No. 37: The selected noise and vibration receptors should represent the worst case (i.e. the closest and most exposed) sensitive land uses with respect to the current undertaking. Furthermore, the receptors should represent all the existing and planned noise and vibration sensitive land uses.	Metrolinx will include text in the EPR that it will consider new approved development information that was not readily available when requested at the time of writing the reports, as it is received from the various municipalities. Please also refer to Comment responses #32 above.		
		Item No. 38: Appendix F should also include sample noise calculations. The use of the FTA algorithm implemented in CadnaA software for prediction of rail traffic noise is not yet approved by the MOECC. If these predictions are used, then they should be verified at representative receptor locations using the FTA software. This comment has nothing to do with the STEAM algorithm / STAMSON software.	Metrolinx confirmed that sample noise calculations will be included in Appendix F.		
Ministry of Natural Resources & Forestry	TPAP Phase	Gabby forwarded this email to me for review as the new biologist in charge of this project. The attached table referred to some documents that summarize how each comment was considered and additional clarification and/or information was provided, where applicable. MNRF need access to the final document that is being referred to in the table in order to be sure that our concerns are well taken care of. We will therefore require three (3) separate copies of all the final documents that was mentioned/referred to in the attached table. One copy for the MNRF planner, one for the biologist in Aurora District and the last for the biologist in Midhurst District. We will be able to review our treated comments once we receive those documents.	To provide clarification, the comment/response table provided to Gabby on June 8, 2017 was associated with the GO Rail Network Electrification Draft Environmental Project Report (EPR) document that was circulated to MNRF in January 2017 to solicit comments prior to issuing the Notice of Commencement (which was subsequently issued on June 14, 2017 and a copy was provided to: Gabby Gilchrist and Jackie Burkart at the Aurora District, Ken Mott and Brent Shirley at the Midhurst District, the NHIC Office and Tom Hilditch (COSSARO Chair)). For your reference, we have re-attached a copy of the table to this email which outlines the comments received from MNRF on the Draft EPR and the responses provided to each by Metrolinx. Please note that the Final EPR will be posted publically to Metrolinx’s website for a 30 day review period upon issuance of the TPAP Notice of Completion on October 11, 2017; MNRF will be notified when the report is available for review. Electronic copies of the Final EPR will be made available via an FTP site for download, upon issuance of the TPAP Notice of Completion. The FTP site will allow for downloading of the Final EPR by designated MNRF staff.		
Ministry of Tourism Culture & Sport	TPAP Phase	Our outstanding concern at this time is not about how Metrolinx answered our comments in the table. Rather, it is about when MTCS would be receiving the additional information so we can review it as part of the TPAP. The Draft EPR (January 2017) required additional information and revisions, including the anticipated impacts (direct or indirect). We would like to have an opportunity to review the revised document, or at a minimum, the draft sections related to cultural heritage, as soon as possible. Our intention is to ensure that when Metrolinx issues the notice of completion in October, all items related to cultural heritage will have been addressed. Meanwhile, we would appreciate you sending us: The 2016 Taylor Hazel CHER and SCHV for Union Station Completed cultural heritage documentation (e.g. CHERs, CHERRs, HIAs, SCHV, Metrolinx Decision Forms)	To clarify, the purpose of the meeting request was to provide you with an update of work completed to date (since you received the draft EPR), next steps and future work; as well as to provide an opportunity to discuss any questions you may have. Please let me know if you would still like to meet next week or the following week. We will be sending you the following via EATS today. Can you please provide myself and Dan Beare with access? My account seems to have expired. 1. All outstanding CHERs, CHERRs, SCHV and MHC Decision Forms The following is a summary of summary of CHERs that were identified as being ‘in-progress’ in the January 2017 dEPR submission to MTCS (EPR Volume 3, Table E-2). Other CHERs identified in the EPR were previously provided to MTCS.		
			Property	MHC Decision	Further Assessment
			Islington Avenue Bridge	9/06	HIA during detailed design

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx																																											
			<table><tr><td>Maple GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Newmarket GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Markham GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Humber River Bridge on LSW Corridor</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Bramalea Paralleling Station (proposed)</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Dundas Street Bridge on Barrie corridor</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Don River</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Carlaw Avenue</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Gerrard Avenue</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Pape Avenue pedestrian bridge</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Birchmount Avenue</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Danforth Avenue</td><td>Not heritage</td><td>n/a</td></tr></table>	Maple GO Station	9/06	HIA during detailed design	Newmarket GO Station	9/06	HIA during detailed design	Markham GO Station	9/06	HIA during detailed design	Humber River Bridge on LSW Corridor	9/06	HIA during detailed design	Bramalea Paralleling Station (proposed)	Not heritage	n/a	Dundas Street Bridge on Barrie corridor	Not heritage	n/a	Don River	Not heritage	n/a	Carlaw Avenue	Not heritage	n/a	Gerrard Avenue	Not heritage	n/a	Pape Avenue pedestrian bridge	Not heritage	n/a	Birchmount Avenue	Not heritage	n/a	Danforth Avenue	Not heritage	n/a							
		Maple GO Station	9/06	HIA during detailed design																																										
Newmarket GO Station	9/06	HIA during detailed design																																												
Markham GO Station	9/06	HIA during detailed design																																												
Humber River Bridge on LSW Corridor	9/06	HIA during detailed design																																												
Bramalea Paralleling Station (proposed)	Not heritage	n/a																																												
Dundas Street Bridge on Barrie corridor	Not heritage	n/a																																												
Don River	Not heritage	n/a																																												
Carlaw Avenue	Not heritage	n/a																																												
Gerrard Avenue	Not heritage	n/a																																												
Pape Avenue pedestrian bridge	Not heritage	n/a																																												
Birchmount Avenue	Not heritage	n/a																																												
Danforth Avenue	Not heritage	n/a																																												
		<p>The 2016 Taylor Hazel CHER and SCHV for Union Station. Please note that a correction is being to the EPR for St. Clair and Midland Avenue (both on LSE corridor) to state that no CHERs are required. HIAs for 9/06 properties will be completed during detailed design.</p> <p>2. 10/06 HIAs – Union Station Train Shed, Aurora GO HIA, and Credit River Bridge HIA.</p> <p>3. Completed Stage 2AA (a full summary of archaeological studies and the status is attached).</p> <p>The EPR and appendices are currently being updated for the final EPR which will be available for public review upon issuance of the Notice of Completion (October 11, 2017).</p>																																												
		<p>As you are aware there are Metrolinx has multiple projects currently underway, with the Network Electrification project overlapping other projects. Over the last few days we have received conflicting information from the Electrification and the LSE Teams about the status and outcomes of CHERs. For example, on the LSE project we have just received CHERs and confirmation that the Carlaw Ave Bridge and Gerrard Ave Bridge meet 9/06 and are heritage properties. However, the Electrification team has advised they were evaluated but are not heritage properties. Also the Electrification team has advised that CHERs have been completed for the Don, Birchmount and Danforth bridges but the LSE team advised that no CHERs have been completed.</p> <p>I don’t know if this may also be an issue for the Barrie Corridor.</p> <p>It may become clear once we receive the CHERs, CHERRs and Decision Forms completed to date. Meanwhile, I wonder if the status of CHERs and outcomes could be doubled checked for consistency and to ensure that the EPRs for each project is accurate.</p>	<p>I apologize for the confusion. There was a cut and paste error in my table for Carlaw and Gerrard – they both met 9/06 criteria and are confirmed heritage. Corrected table below:</p> <table><tr><th>Property</th><th>MHC Decision</th><th>Further Assessment</th></tr><tr><td>Islington Avenue Bridge</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Maple GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Newmarket GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Markham GO Station</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Humber River Bridge on LSW Corridor</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Bramalea Paralleling Station (proposed)</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Dundas Street Bridge on Barrie corridor</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Don River</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Carlaw Avenue</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Gerrard Avenue</td><td>9/06</td><td>HIA during detailed design</td></tr><tr><td>Pape Avenue pedestrian bridge</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Birchmount Avenue</td><td>Not heritage</td><td>n/a</td></tr><tr><td>Danforth Avenue</td><td>Not heritage</td><td>n/a</td></tr></table>		Property	MHC Decision	Further Assessment	Islington Avenue Bridge	9/06	HIA during detailed design	Maple GO Station	9/06	HIA during detailed design	Newmarket GO Station	9/06	HIA during detailed design	Markham GO Station	9/06	HIA during detailed design	Humber River Bridge on LSW Corridor	9/06	HIA during detailed design	Bramalea Paralleling Station (proposed)	Not heritage	n/a	Dundas Street Bridge on Barrie corridor	Not heritage	n/a	Don River	Not heritage	n/a	Carlaw Avenue	9/06	HIA during detailed design	Gerrard Avenue	9/06	HIA during detailed design	Pape Avenue pedestrian bridge	Not heritage	n/a	Birchmount Avenue	Not heritage	n/a	Danforth Avenue	Not heritage	n/a
Property	MHC Decision	Further Assessment																																												
Islington Avenue Bridge	9/06	HIA during detailed design																																												
Maple GO Station	9/06	HIA during detailed design																																												
Newmarket GO Station	9/06	HIA during detailed design																																												
Markham GO Station	9/06	HIA during detailed design																																												
Humber River Bridge on LSW Corridor	9/06	HIA during detailed design																																												
Bramalea Paralleling Station (proposed)	Not heritage	n/a																																												
Dundas Street Bridge on Barrie corridor	Not heritage	n/a																																												
Don River	Not heritage	n/a																																												
Carlaw Avenue	9/06	HIA during detailed design																																												
Gerrard Avenue	9/06	HIA during detailed design																																												
Pape Avenue pedestrian bridge	Not heritage	n/a																																												
Birchmount Avenue	Not heritage	n/a																																												
Danforth Avenue	Not heritage	n/a																																												

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>With respect to the Don, Birchmount and Danforth bridges, the LSE Segment 1 TPAP/project has no direct impacts to these properties, which is why Mirjana stated that they will be addressed during detailed design for that project. However, we will provide you with the CHERs for Electrification as direct impacts include the installation of flash plates and/or wires and/or bridge barriers.</p> <p>For the Barrie Corridor, the Dundas Street Bridge identified in the table above is confirmed as not heritage. Maple and Newmarket GO Stations identified in the table above are confirmed heritage. Please note that the BRCE project has a longer list of properties (than Electrification) being assessed as a result of direct impacts of that project.</p> <p>Please provide myself and Dan Beare with EATS access. My account seems to have expired. We would like to transfer the CHERs, CHERRs, SCHVs and Decision Forms to you ASAP.</p>
		<p>In order to support MTCS review and, as discussed at the meeting, there were a couple of items/documents that we would need from Metrolinx:</p> <ul style="list-style-type: none">• PIFs for archaeological assessment –please include the PIFs in your table (attached), it will be easier for MTCS to coordinate the review internally• Cultural Heritage Evaluation Reports (CHERs) and Metrolinx Heritage Committee decision forms – we have now received all the documents• Heritage Impact Assessments (HIAs) – please send a copy of the HIA for the Credit River Bridge and please confirm if the HIA for Aurora GO Station dated July 2017 (by Taylor Hazell Architects) is for both BRCE and Electrification projects. We also have the HIA for Union Station dated January 2017 and will be providing comments.• Electronic copy of the deck presented at the meeting	<p>A copy of the requested files were provided electronically.</p>
		<p>Thank you for Metrolinx’s response to our comments and for meeting with MTCS staff on August 10th. MTCS does not have any major concerns with the project. Our comments are mainly to add further clarity to the final EPR document. However, please be aware that when we review revisions within the context of the overall EPR we may have additional comments, or recommendations for additional revisions to the final EPR.</p>	<p>Acknowledged.</p>
		<p>Archaeological Resources:</p> <p>Thank you for providing the PIF numbers for the completed archaeological assessments. MTCS records indicate that the reports for Stage 1 AA (PIF #P057-0834-2016) and Stage 2AA (PIF #P094-0200-2016) have not yet been submitted to MTCS for review by our archaeology colleagues. We suggest that these reports be submitted as soon as possible, and we recommend that the consultant archaeologist(s) request an expedited review.</p>	<p>The Stage 1 AA Report was entered into the MTCS registry on September 22, 2017 and expedited review was requested.</p>
		<p>Archaeological Resources:</p> <p>Consistent with MTCS’s advice on other recent Metrolinx project, the final EPR must include clear and detailed commitments articulating what and when further archaeological assessments will be undertaken. The recommendations of the completed archaeological assessment reports state the areas requiring additional archaeological assessment. All archaeological assessment should be completed and reports submitted MTCS for review prior to the completion of detailed design and well in advance of any ground disturbing activities.</p>	<p>The Final EPR will contain clear commitments relating to further archaeological assessments.</p>
		<p>CHER/HIA Tracking Table:</p>	<p>Acknowledged. Responses provided below.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		MTCS has reviewed Table E-2 of the draft EPR and compared is with additional information and advice received from Metrolinx in emails dated January 23, 2017 and July 21, 2017. The entries for the Humber River Bridge and the Bramalea PS Site require clarification –see below.	
		<p>CHER/HIA Tracking Table:</p> <p>Additionally, the Table E-2 is, for the most part, a table lists all identified and potential CHRs within the corridors and provides tracking for further study e.g. CHERs, HIAs. As we stated in our comments (see Item #33) the purpose of the CHERs is to determine which resources have CHVI or not. It would be helpful for the final EPR to include a map(s) that depicts the cultural heritage resources (only those determined to have CHVI). For your information and reference recently completed EPR for the Barrie Rail Corridor Expansion project would provide a good example of this.</p>	Appendix A of the Cultural Heritage Impact Assessment Report (EPR Appendix C), which shows the location of CHRs, will now only include known PHPs, PHPPSs, and Adjacent Protected Properties. This addresses MTCS's comment.
		<p>Humber River Bridge (LSW-1-5) - also see item 42 of the Comment/Response Table.</p> <ul style="list-style-type: none">The draft EPR (and MX Response #42) state that a CHER was completed and the Humber River Bridge is a PHPPS [see Table E-2, Table 4-25 (page 148 vol. 3), Table 4-26 (page 151 vol. 3)].However the CHER, CHERR and MX HC Decision form provided to MTCS as part of this TPAP states that the Humber River Bridge is a PHP (9/06). <p>Please clarify:</p> <ul style="list-style-type: none">Whether the Humber River Bridge (LSW) is a PHP (9/06) or PHPPS (10/06)?Is there identification such as mile number to help differentiate it from the Humber River Bridge on the UP Express?Please confirm the potential impacts are as stated in Table 4-25 (page 148 vol 3) - e.g. attaching OCS wires and portals.	Humber River Bridge on the LSW corridor has been classified by Metrolinx as a Provincial Heritage Property on the basis that it meets Reg. 9/06 of the Ontario Heritage Act. It is located at Mile 5.02. Both the correct classification and mile number integrated into CHSR and CHIA where appropriate. Anticipated impacts include installation of portal structures and OCS wires.
		<p>Bramalea Paralleling Station TP Site: 8000 Dixie Road (Ford Motors)</p> <ul style="list-style-type: none">It is not clear whether the lands that MX is acquiring would include any heritage attributes, as identified by municipality. The lands to be acquired may not have any heritage attributes but, at this time, it is not appropriate to state that the property doesn't have CHVI.For example, Table E-2 of the EPR states that the Bramalea PS TP site is a Non-Heritage Property (consistent with MxHC Decision). However, the CHER (ASI) states that property is listed on the City of Brampton's Municipal Register of Cultural Heritage Resources and the CHERR (dated August 2016 revised February 2017 ASI) demonstrates clearly that the office building on the property is a good example of International Style architecture. However, it further states that because the building is located on the southern 2/3rd of the property it will not be acquired and therefore has no CHVI.Please clarify:<ul style="list-style-type: none">Please clarify and provide a map to illustrate the portion of 8000 Dixie Road that is to be acquired by Metrolinx as well as the location and extent of the proposed infrastructure (e.g. paralleling station, gantries etc.).Given that the property is on the City's Municipal Register please advise whether the City's Heritage Planner has been provided the opportunity to review the CHER, and what was the response received?	<p>Classification of properties in the CHIA is based on Metrolinx Heritage Committee Decision Forms and accordingly, the classification applied to this property through that process and committee has been reflected in the CHIA. Revised section 3.3.1 of the CHIA to acknowledge the results of the MX decision form and to not mention the results from the CHSR as they have now been superseded by the MX Decision Form. Section 3.3.1 now states that there are no heritage properties identified within the Bramalea PS site and that there are no further concerns from a cultural heritage perspective.</p> <p>Regarding a plan illustrating the proposed footprint of the Bramalea PS on the property, we have attached a map depicting where the facility is proposed (this was also included in the Draft EPR provided to MTCS in January 2017). Property acquisition discussions are still ongoing between Metrolinx and the Property Owner.</p> <p>A copy of the CHER was provided to the municipality for comment on June 12 2017. On August 30 2017 the City of Brampton provided a response to the June 12 2017 email noting satisfaction with Metrolinx's responses to the City's comments on the draft EPR and advising that they had no further comments.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		As a general comment, we understand that these HIAs were likely commissioned prior to MTCS HIA Information Bulletin being finalized, but for consistency we ask that in future these technical studies follow the format outlined by MTCS. We are also assuming that these HIAs will be included on the final EPR.	The Final HIAs will be appended to the Final EPR. We have also provided a copy of the revised Union Station HIA as an attachment to these responses for your information.
		Union Station HIA (dated January 16, 2017 prepared by E.R.A) We thank Metrolinx for its response item 41 of the Comment/Response Table for how results of the HIA will be summarized in EPR. This HIA should also be revised to reference the 2006 Collateral Agreement and demonstrate how the proposed interventions are consistent with the “Conservation Guidelines and Conservation Strategies” of the Historic Structure Report (dated April 2005 prepared by FGMMA).	The HIA has been revised to address MTCS comments. See below for details.
		Union Station HIA (dated January 16, 2017 prepared by E.R.A) The following are report-specific comments: Both the Executive Summary and the Introduction of the HIA should clearly state the heritage designation/recognitions of the property. Included should be that Union Station was determined to be a PHPPS.	Executive summary and introduction have been revised to state the heritage designation/recognitions of the property. Union Station recognition as a PHPPS has been added.
		Union Station HIA (dated January 16, 2017 prepared by E.R.A) The following are report-specific comments: Section 2-1 notes that Union Station is municipally designated and federal recognized. It should also note that it was determined to be a PHPPS under the Standards and Guidelines for the Conservation of Provincial Heritage Properties under the Ontario Heritage Act (Part III.1) (OHA S&Gs).	Section 1-2 has been updated to include the following statement: <i>Union Station is also provincially recognized as a Provincial Heritage Property of Provincial Significance by the Ministry of Tourism, Culture and Sport under regulation 10/06 under the Ontario Heritage Act (OHA). Federally, Union Station is recognized as a National Historic Site.</i>
		Union Station HIA (dated January 16, 2017 prepared by E.R.A) The following are report-specific comments: Section 1.3 reproduces a portion of a 2005 HIA for the Trainshed (THA). We suggest the section heading be re-named, since it addresses only the trainshed and not the “site history”.	Section heading has been renamed to <i>History of Union Station Trainshed</i> .
		Union Station HIA (dated January 16, 2017 prepared by E.R.A) The following are report-specific comments: Section 2 Methodology – Should be clarified to address the following: Subsections 2.1 and 2.2 include lists of documents relating to Union Station. However, a) the lists are not complete: for example, the OHA S&Gs should be included under legislation and policy; the Stage 3 Approval (Feb 22, 2010 Parks Canada) provide to MTCS by Metrolinx is not included. b) it is not clear how the documents relate and inform the current proposed interventions: for example, it is not clear how the recommendations of this HIA meet the requirements of the 2006 agreement or the established process as per the Parks Canada agreement. Additionally, the 2010 Stage 3 Approval noted above considers interventions to accommodate future electrification.	Section 2.1 and 2.2 has been updated as per MTCS comment.
		Union Station HIA (dated January 16, 2017 prepared by E.R.A)	Section 3.3 has been updated to include PHPPS designation and approval requirement under the Collateral Agreement.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<p>The following are report-specific comments:</p> <p>Section 3.3 Heritage Recognition should also note:</p> <ul style="list-style-type: none">the Union Station is a PHPPSthe requirement for approval under the 2006 Collateral Agreement.	
		<p>Union Station HIA (dated January 16, 2017 prepared by E.R.A)</p> <p>The following are report-specific comments:</p> <p>Section 5 – Discussion of Proposed Intervention –the current proposed invention should be discussed in terms of the existing approvals, including the 2010 Stage 3 Approval.</p>	<p>Section 5 has been updated to include the following:</p> <p><i>As of September 2017, the type of proposed intervention in the trainshed has yet to be selected. Upon selection of the preferred option, a full review of the relevant material, including the relationship with existing approvals for the trainshed (i.e. 2010 Stage 3 approval provided by Parks Canada), will be included in the formal submission to Parks Canada under the terms of the Collateral Agreement.</i></p>
		<p>Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects)</p> <p>We note that the Aurora GO Station is a PHPPS, Listed by included on the Town of Aurora’s municipal heritage register and designated as a (federal) Heritage Railway Station [designation remains in place but is no longer enforceable].</p>	<p>Acknowledged.</p>
		<p>Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects)</p> <p>The Executive Summary and Introduction states that the HIA addresses upgrades and interventions resulting from both Barrie Rail Corridor Expansion (BRCE) and Network Electrification projects. It further states that additional station upgrades, including development of a train shed, full platform enclosure for the station is being considered under a separate and concurrent project. Please provide MTCS with details/clarification about this additional project.</p>	<p>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</p> <p>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</p> <p>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</p>
		<p>Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects)</p> <p>The Introduction (Section 1) makes no mention of a strategic conservation plan. Though Section 4.3 notes that there isn’t one in effect for the property, this should be noted in the introduction.</p>	<p>See response to item #17</p> <p><i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i></p> <p><i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i></p> <p><i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i></p>
		<p>Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects)</p> <p>Section 5 rates impacts as low, medium or high, but does not distinguish between direct and indirect impacts. This section of the HIA should identify direct adverse impacts, indirect adverse impacts, and positive impacts, as the case may be. Additionally, it would be helpful for the HIA to include graphics (e.g. maps, drawings, plans etc.) illustrating the proposed alterations and additions on the property and in relation to the station, even if in preliminary format. Illustrations can also assist in supporting and/or articulating whether a proposal would be impacting or not on the CHVI and/or heritage attributes of the property.</p>	<p>See response to item #17</p> <p><i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i></p> <p><i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i></p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) Section 6 consists substantially of a table identifying the mitigation measure for each potential impact. This section of the HIA should describe alternatives considered and the rationale for the selected mitigation approach.	See response to item #17 <i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i> <i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i> <i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) Section 7 reproduces the correspondence received from the Town of Aurora, including specific questions and requests regarding heritage conservation and design, but offers no explanation of how these questions and comments were addressed or incorporated into the assessment. This part of the HIA should provide answers to the questions and notes on the consideration of comments and requests. In this regard, we note that at our August 10th, 2017 meeting MTCS specifically noted that we had been contacted by the Heritage Planner of the Town of Aurora, and advised that Metrolinx should provide a copy of this HIA to him and follow up regarding any potential comments. Please note, the EPR should include a summary of comments and how they were addressed.	See response to item #17 <i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i> <i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i> <i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) Section 8 should include a reiteration, in the form of straightforward recommendations, of the mitigation measures identified in Section 6.	See response to item #17 <i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i> <i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i> <i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) Section 8 refers to a dossier specific to the Aurora GO Station contained within the Metrolinx Design Excellence Guidelines. The section should explain how this complies with the OHA S&Gs. Further, please provide MTCS with a copy and the opportunity to review this dossier. It is not clear what information is in there that would guide future management of the station.	See response to item #17 <i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i> <i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i> <i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects)	See response to item #17

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		Section 8 refers to “heritage specialists” being involved at every stage in the development of designs. MTCS recommends that the term “qualified persons) is used as per the S&Gs and that greater specificity about the qualifications required is articulated in the HIA document.	<p><i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i></p> <p><i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i></p> <p><i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i></p>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) The figures provided in Section 11 should be referenced or embedded in the body of the HIA where the property, its conditions, and the project context are described. For example, Figures 1 and 2 could be referenced or embedded in Section 1, Figures 3 through 8 in Section 3, and Figures 9 and 10 in Section 4. Additionally, figures should be added showing the locations and approximate extent of the proposed works.	<p>See response to item #17</p> <p><i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i></p> <p><i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i></p> <p><i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i></p>
		Aurora GO Station HIA (dated July 2017 prepared by Taylor Hazell Architects) Additionally, under Table 6.1 the recommended mitigation is adherence to the Metrolinx Design of Excellence Guidelines and guidelines specify to the Aurora GO Station. See comments above on these guidelines.	<p>See response to item #17</p> <p><i>The Aurora GO Station HIA took into account the potential impacts of both the Barrie Rail Corridor Expansion (BRCE) Project and the GO Rail Network Electrification Project. The final Aurora Go Station HIA was provided to MTCS for review as part of the Barrie Rail Corridor Expansion final EPR.</i></p> <p><i>As per the August 11, 2017 email (attached) to Metrolinx, MTCS indicated that it was satisfied with the report and the commitment within the report based on the review of the EPR and associated cultural heritage studies.</i></p> <p><i>The Aurora GO Station HIA is publicly available as part of the BRCE EPR. Metrolinx preference is to be consistent across its publicly available documents. As such, Metrolinx will not be revising the Aurora Go Station HIA.</i></p>
		Credit River Bridge (Mile 13.27) Lakeshore West Corridor HIA (dated August 3, 2017 ASI) The introduction (Section 1) makes no mention of a strategic conservation plan. If there is a strategic conservation plan in should be referenced here.	<p>A strategic conservation plan has not been prepared for this structure and accordingly, the HIA does not reference one. Introduction of the HIA has been modified to clarify that a SCP does not yet exist.</p>
		Credit River Bridge (Mile 13.27) Lakeshore West Corridor HIA (dated August 3, 2017 ASI) Section 4 describes the physical interventions and provides supporting graphic materials, showing the physical context of the project. As per the MTCS Info Bulletin on Preparing Heritage Impact Assessments, this section should also include:	<p>HIA revised in Section 4.0 to address rationale for the activity and how it fits into Metrolinx’s objectives. Included text re purpose of GO Rail Network Electrification Project and purpose/need for OCS attachments</p>
		<ul style="list-style-type: none">○ the rationale, purpose and need for the proposed activity○ how the proposed activity fits within the ministry or prescribed public body’s objectives for the property○ where there is an adopted Strategic Conservation Plan, how the proposed activity fits within the ministry or prescribed public body’s objectives as articulated in the Strategic Conservation Plan○ how the proposed activity fits within a broader community and land use planning context	

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		<ul style="list-style-type: none">any other applicable considerations or planning process requirements or required permits or approvals, such as municipal planning considerations, Environmental Assessment, Renewable Energy Approval	
		Credit River Bridge (Mile 13.27) Lakeshore West Corridor HIA (dated August 3, 2017 ASI) In Section 5 The Description of Impacts on the Heritage Attributes of the Credit River Bridge in the Alteration row of Table 1 begins “The introduction of OCS Attachments are not expected to result in significantly adverse impacts on identified heritage attributes”, as though the intervention does not constitute a potential impact through alteration. The introduction of OCS attachments is clearly an alteration to be mitigated. While MTCS has no concerns with the mitigation measures proposed in this HIA, the Impact Assessment section should treat this alteration as a potential impact.	HIA revised to refine the description of impacts in Table 1.0 and Executive Summary.
		Credit River Bridge (Mile 13.27) Lakeshore West Corridor HIA (dated August 3, 2017 ASI) Section 7 refers to correspondence with the Senior Heritage Coordinator at the City of Mississauga. The HIA should include the correspondence received, and explain how any comments were addressed.	HIA revised in Section 7.0 and Section 8.0 recommendations to identify circulation of the HIA to City of Mississauga. Additionally, Section 7.0 provides a description of the information that was provided by the City of Mississauga in June 2016.
		Additionally, at our meeting on August 10th, 2017 MTCS advised that the Credit River has been identified by the City of Mississauga as a significant Cultural Heritage Landscape, and that we have been working with City of Mississauga and MTO on the widening of the QEW/Credit River Bridge. We suggest that this HIA be sent to the City of Mississauga’s Heritage Planning staff for review, and that they continue to be engaged and informed of the proposed alterations to the bridge. The HIA should also address the bridge within it broader Cultural Heritage Landscape and whether the HIA recommendations would also serve to minimize impacts on the CHL.	HIA revised in Section 7.0 and 8.0 Recommendations to identify circulation of the HIA to City of Mississauga.
		“Housekeeping” Item – Under the S&Gs properties are to be added to the list of provincial heritage properties as they are evaluated. While MX has sent MTCS with full documentation package (e.g. final CHER, CHERR & MxHC Decision Form) for most of the evaluated properties, those properties where the CHERs were appended to the draft EPR have not been provided. These are: <ul style="list-style-type: none">Sunnyside Pedestrian Walkway (LSW-1-4)Topiary Signs (LSW-1-7)Willowbrook Maintenance Facility (LSW-2-2)Sixteen Mile Creek (LSW-6-1) and Cross Avenue BridgeBronte Creek Bridge (LSW-7-1)Drury Lane Pedestrian Bridge (LSW-8-1)Innes Avenue Pedestrian Bridge (BR-1-2)Holland River Bridge (BR-8-1)	As requested in the August 31st, 2017 email, the final CHER, CHERR and MHC Decision Forms were provided to MTCS via EATS on September 1st, 2017 for the following properties: <ul style="list-style-type: none">Sunnyside Pedestrian Walkway (LSW-1-4)Topiary Signs (LSW-1-7)Willowbrook Maintenance Facility (LSW-2-2)Sixteen Mile Creek (LSW-6-1) and Cross Avenue BridgeBronte Creek Bridge (LSW-7-1)Drury Lane Pedestrian Bridge (LSW-8-1)Innes Avenue Pedestrian Bridge (BR-1-2)Holland River Bridge (BR-8-1)
		Thanks again for the opportunity to review the documentation. We look forward to our continued collaboration with Metrolinx. Please contact me as necessary for clarification or further discussion.	Acknowledged.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
MUNICIPAL AGENCIES			
City of Barrie	TPAP Phase	<div><div>1. Have the adjacent property owners been mailed a copy of the attached notice of study commencement and PIC?</div><div>2. Any plans to have a PIC in Barrie (Newmarket appears to be the closest)</div></div>	<div>A copy of the Notice of Commencement and Public Meetings is being mailed to property owners within 100m of the project study area as well as being published in 30 newspapers including the Barrie Advance and Barrie Examiner which have circulation in the City of Barrie.</div> <div>You are correct, the closest public meeting location to the City of Barrie is in the Town of Newmarket at the Newmarket Community Centre on Wednesday July 5th, 2017. There are no plans to host a public meeting in Barrie. Metrolinx hosted two public meetings in 2016 in the City of Barrie on March 3rd, 2016 during the first round of public engagement and on November 21st, 2016 during the second round of public engagement. In addition, all meeting materials will be posted at gotransit.com/electrification for any individuals unable to attend the meetings in person.</div>
City of Burlington	TPAP Phase	Consistently the RER project is holding meetings in Mississauga for the Lakeshore West line. We believe there is value in holding events in either Oakville or Burlington as the RER project extends into Halton Region. We request that events are moved around on the Lakeshore West line and not largely held in one municipality.	<div>The latest round of public engagement was our third round of hosting public meetings in communities across the Greater Toronto and Hamilton Area. The first round was held in February/March 2016 and included meetings in both Oakville and Burlington. During the second round, we shared an update on electrification at the March 30th public meeting in Oakville to discuss the Burloak Drive grade separation.</div> <div>For the third round, we strategically located meetings in the north, the east, south and west to provide a further opportunity for community members to drop by to ask any further questions. Unfortunately, we were unable to have meetings in all of the locations that we have previously visited. We understand your concern that Metrolinx did not host another public meeting in the Town of Oakville or the City of Burlington during this current round of engagement. However, all of the meeting materials are posted at gotransit.com/electrification and we are more than happy to connect and answer any of your questions.</div>
Town of Whitchurch-Stouffville	TPAP Phase	I recently read the release that The Stouffville Line will be electrified. Is there a timeline of when this construction will commence? Any information you can provide on this would be appreciated. We are directly impacted by this process so we would like to know any details.	<div>As part of Regional Express Rail, Metrolinx is planning to electrify GO owned rail corridors including the Stouffville line. The first step is to complete the electrification TPAP, finalize detailed design, and then procure the project before construction can begin.</div> <div>We are currently completing the TPAP environmental assessment to electrify core areas of the GO network by 2025. We are hosting a third and final round of public meetings in late June and early July.</div> <div><div><div>Monday, June 26, 2017</div><div>Clarke Memorial Hall</div><div>161 Lakeshore Road West</div><div>Mississauga, ON L5H 1G3</div></div><div><div>Wednesday, June 28, 2017</div><div>Ajax Community Centre</div><div>75 Centennial Road</div><div>Ajax, ON L1S 4S4</div></div><div><div>Thursday, June 29, 2017</div><div>Metro Hall</div><div>55 John Street</div><div>Toronto, ON M5V 3C6</div></div><div><div>Wednesday, July 5, 2017</div><div>Newmarket Community Centre</div><div>200 Doug duncan Drive</div><div>Newmarket, ON L3Y 3Y9</div></div></div> <div>Meeting times: 6:30 p.m. – 8:30 p.m. / Presentation: 7:00 p.m.</div> <div>For more information, please visit gotransit.com/electrification.</div>
		<div>Please remove Shahid Mughal and Steven Kemp from your circulation list as they do not work at the Town.</div> <div>Please Haiqing Xu to your list. Haiqing is starting with the Town of WhitchurchStouffville on Monday, July 10, 2017 and should be on your email circulation. Haiqing’s email address is haiqing.xu@townofws.ca</div>	Shahid Mughal and Steven Kemp have been removed from the project distribution list and Haiqing Xu has been added to the project distribution list. We assume that Haiqing Xu is to be the primary contact for the Town of Whitchurch-Stouffville, can you please confirm this?
York Region	TPAP Phase	Thank you for providing Notice of Commencement for the GO RER Electrification project. York Region and local	Metrolinx will be providing a response to the submitted comments/questions. We expect to be providing a response to you by late June.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		municipal staff submitted comments and questions to Metrolinx on the draft EPR in late February 2017 as requested. Can you please advise whether Metrolinx will be providing a response to the submitted comments/questions, and if so when we may expect to receive the response?			
		As a follow-up to my voicemail, I am writing to you with regards to the Public Meeting held last night in Newmarket for the GO Rail Network Electrification TPAP. Unfortunately, York Region Transportation Services was not able to have anyone in attendance.			For those who were unable to attend the public meetings in person, all meeting materials including the presentation, display panels, handouts, corridor roll plans, and draft technical reports are also posted online at the following link: www.gotransit.com/electrification www.gotransit.com/electrification .
		Would you be able to share with me (either by phone or email) any rough notes or issues that were raised. I'd like to be able to brief my management team if possible. Also of interest to York Region would be if any politicians were in attendance and if they participated in any discussions.			The public meeting held at the Newmarket Community Centre on Wednesday, July 5th, was well attended, with over 80 community members. MPP Ballard was also in attendance, along with Aurora Councillor Gaertner and Markham Councillor Hamilton.
		I would also be interested in any presentation slides or boards that were displayed. However, for now, a summary of issues/political attendance is most important.			Some key topics of interest raised during the question and answer period, included noise impacts from existing and future service, and train bells/whistles at existing road-rail crossings. An idea raised was realigning the rail corridor by removing the eastern jog and straightening the track by moving it west. It was explained that this would be cost prohibitive. Another key topic was parking concerns with the planned increase in service. Also, some people asked about our plans for grade separating road-rail crossings, and where new stations are planned. We provided the following link to our Station Access Plan to Markham Councillor Hamilton on July 6th via email: www.metrolinx.com/en/regionalplanning/projectevaluation/studies/GO_Rail_Station_Access_Plan_EN.pdf . There were also some questions related to procurement methods and timing. In addition, several people attended the meeting from Stouffville and had questions about the double tracking project and the traffic impacts from people accessing the Agincourt station.
		I've noticed story boards posted on the below website on LSE and Stouffville corridors. Do you have any story boards specific to the Barrie Corridor?			Story board files have been uploaded to the website, as the public meetings progress. The story board files for the public meetings in Toronto and Barrie have now been added to the website. Please note that general project story boards are also provided.
		Review Comment	Metrolinx Response	Review Response	This information has not been received by Metrolinx. Once the information is provided, it will be reviewed and considered as part of Detailed Design.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx				
		<div>Appendix A2 – Figure BR-27 and BR -28<ul style="list-style-type: none">• A watercourse is identified within the City’s NHN mapping but not in the figures. Further review is required.• A significant woodland is located at the eastern portion of corridor. City manages all tableland woodlands.• Potential impacts to stormwater management ponds located along eastern corridor. Environmental Services shall be engaged at detailed design stage to determine appropriate mitigation measure and compensation. Where stormwater ponds are located in TRCA regulation limit, TRCA also needs to be consulted.</div>	<div>It was not clear whether the comment on BR-27 and BR-28 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-27 and BR-28. No watercourses are identified within the LIO hydrographic network. As noted in Comment 21 response, if the City can provide Metrolinx with digital data for the NHN network, information on the watercourse and significant woodland will be incorporated into the updated report. Further discussions with City of Vaughan staff will be undertaken with respect to the Project’s final design, including the Maple PS during detail design. It should be noted, that the Project Team had previously requested to be provided with an approximate location of the planned SWM pond on September 15, 2016. This information has yet to be received.</div>	<div>Winnie Lai, Development Engineering and Infrastructure Planning (August 30th Email): Please confirm if Metrolinx has received the information from City’s Public Works department.</div>					
		<table><tr><th>Review Comment</th><th>Metrolinx Response</th><th>Review Response</th></tr><tr><td><div>Appendix A2 – Figure BR-33<ul style="list-style-type: none">• The majority of the western portion of the corridor is located within Block 27 which is currently undergoing a Secondary Plan process. A subwatershed study has been prepared to establish a natural heritage system for this Block.• There is a woodland and a significant woodland both further identified as deciduous woodlands in Figure BR-33. The northern woodland is not significant but the subwatershed study has identified significant amphibian habitat on site.• The southern woodland is designated “significant” in our</div></td><td><div>It is not clear whether the comment on BR-33 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-33. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report. Metrolinx also requests that the City provide the Subwatershed Study so that information identified with respect to significant wildlife habitat can be included in the updated report. It is noted that TRCA regulated areas have been identified at the southern woodland. We do not have access to the recent</div></td><td><div>Winnie Lai, Development Engineering and Infrastructure Planning (August 30th Email): The City does not have current MNRF wetland staking (GIS data) for Block 27, as of yet. We suggest Metrolinx check LIO to verify an updates to wetland designations in this Block.</div></td></tr></table>			Review Comment	Metrolinx Response	Review Response	<div>Appendix A2 – Figure BR-33<ul style="list-style-type: none">• The majority of the western portion of the corridor is located within Block 27 which is currently undergoing a Secondary Plan process. A subwatershed study has been prepared to establish a natural heritage system for this Block.• There is a woodland and a significant woodland both further identified as deciduous woodlands in Figure BR-33. The northern woodland is not significant but the subwatershed study has identified significant amphibian habitat on site.• The southern woodland is designated “significant” in our</div>	<div>It is not clear whether the comment on BR-33 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-33. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report. Metrolinx also requests that the City provide the Subwatershed Study so that information identified with respect to significant wildlife habitat can be included in the updated report. It is noted that TRCA regulated areas have been identified at the southern woodland. We do not have access to the recent</div>
Review Comment	Metrolinx Response	Review Response							
<div>Appendix A2 – Figure BR-33<ul style="list-style-type: none">• The majority of the western portion of the corridor is located within Block 27 which is currently undergoing a Secondary Plan process. A subwatershed study has been prepared to establish a natural heritage system for this Block.• There is a woodland and a significant woodland both further identified as deciduous woodlands in Figure BR-33. The northern woodland is not significant but the subwatershed study has identified significant amphibian habitat on site.• The southern woodland is designated “significant” in our</div>	<div>It is not clear whether the comment on BR-33 applies to the Terrestrial or ELC figure series. Based on the location identified, we assume the comment is regarding ELC figure BR-33. As noted in Comment 21 response, if the City can provide MX with digital data for the NHN network, information on woodlands will be incorporated into the updated report. Metrolinx also requests that the City provide the Subwatershed Study so that information identified with respect to significant wildlife habitat can be included in the updated report. It is noted that TRCA regulated areas have been identified at the southern woodland. We do not have access to the recent</div>	<div>Winnie Lai, Development Engineering and Infrastructure Planning (August 30th Email): The City does not have current MNRF wetland staking (GIS data) for Block 27, as of yet. We suggest Metrolinx check LIO to verify an updates to wetland designations in this Block.</div>							

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		NHN mapping by the Region and confirmed in the subwatershed study. As there is a watercourse contained within the woodland feature, and this woodland is contiguous to a valleyland, the TRCA regulates these areas. <ul style="list-style-type: none">• The latest wetland staking from MNRF is not identified on Figure BR-33.	MNRF wetland staking. Mapped wetland areas are based on the most recent LIO data.		
		Many comments pertain to uncertainty in the identification of vegetation (natural heritage features) within the study area. Policy Planning and Environmental Sustainability (PPES) will coordinate the transfer of Natural Heritage Network GIS files to Metrolinx. This data will assist in the update of the Impact Assessment Reporting and Volume 3, if needed. Please confirm if Metrolinx has a data transfer agreement with the City.			Please note there were 2 reports prepared pertaining to the Natural Environment: 1) Natural Environmental Baseline Conditions Report and 2) Natural Environmental Impact Assessment Report - both of these reports were included in Appendix A to the Draft EPR that was provided to the City of Vaughan in January 2017. To provide further detail and clarification as to the work that was completed as part of the TPAP to identify natural heritage features in the study area, please refer to the the following sections of the Natural Environmental Baseline Conditions Report that was included as Appendix A to the Draft EPR (which was provided to the City of Vaughan in January 2017): Section 3, Section 3.1, Section 3.2, Section 3.3, Section 3.4. These sections provide a comprehensive summary of the type of data that was collected to identify natural heritage features in teh Study Area. The impact assessment of these features is documented in the Natural Environmental Impact Assessment Report that was included as Appendix A to the Draft EPR. In addition, please note that a data request was sent to the City of Vaughan via an emailed letter on May 15, 2017, however an agreement on data sharing between parties could not be reached in time and no information was provided by the City.
		Various comments on the appropriate identification of tree/vegetation/natural heritage impacts. We wish to continue to be involved in the review and quantification of natural heritage impacts during the detailed design stage. The City also welcomes further discussion on the development of Metrolinx Compensation Protocol.			<p>With respect to Tree/Vegetation Compensation, Metrolinx is currently developing a to Tree/Vegetation Compensation in consultation with municipalities and Conservation Authorities that will entail:</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality- wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g., reuse/recycling options.</p> <p>Metrolinx is continuing to work towards finalizing the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		Appendix A - Natural Environment Report, Vegetation Removal Zone Please ensure that ANSI 300 standards are included to ensure proper pruning practices are specified within the corridor.	Pruning activities will be carried out taking into consideration requirements and guidelines that may be applicable to local municipalities. ANSI 300 (as a particular set of industry standards and best practices for tree care) will be reviewed as part of detailed design to determine the applicabilty of these guidelines as they relate to pruning activiites for electrification. Pruning will be carried out under the guidance of a Registered Forester or ISA certified Arborist.
		Appendix A - Natural Environment Report, Future Work and Mitigation Measures We look forward to review the detailed Tree Inventory and Preservation Plan identified in these sections.	See response to item 84 above <i>With respect to Tree/Vegetation Compensation, Metrolinx is currently developing a to Tree/Vegetation Compensation in consultation with municipalities and Conservation Authorities that will entail:</i> <i>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality- wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</i> <i>For Trees within Metrolinx property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</i> <i>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</i> <i>Federal lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed</i> <i>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g., reuse/recycling options.</i> <i>Metrolinx is continuing to work towards finalizing the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</i>
		We will require advance warning of any construction activities so we can plan accordingly.	Metrolinx (and its Contractors as appropriate) will continue to engage and communicate with stakeholders, including municipalities, beyond TPAP completion. Continued discussions and consultation with municipalities will be undertaken during detailed design and construction. Specifically, Metrolinx will coordinate with Municipalities, as appropriate, to develop traffic, parking, transit, cycling and pedestrian management strategies prior to commencement of construction to avoid/minimize interferences to traffic to the extent possible. As part of the continuous public engagement, we will maintain the Electrification project website throughout the detailed design and construction phases where the public can access updated information on the project.
		Appendix I Traffic Impact Analysis, Section 3.3.16 For any intersections recommended for signalization along Regional roads, York Region’s minimum spacing requirement of 215 metres between two signalized intersections must be met.	Acknowledged. This comment is specific to the Barrie Rail Corridor Expansion Project (BRCE). A written response addressing a similar comment on spacing requirements was provided by the BRCE Transit Project Assessment Process (TPAP) project team on Sep 08, 2017 . Please note that the GO Rail Network Electrification and BRCE projects are being assessed as separate TPAPs with consideration for areas of overlap. We will continue to coordinate between ongoing Metrolinx TPAPs so that all stakeholder comments are addressed, documented in the respective Environmental Project Reports and considered during detailed design. Please see below for the response provided by the BRCE : York Region Comment # 114

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p><i>A new signal is recommended at Ross Street which is about 49 metres east of the track. In our opinion, this is too close to the track and allowing full movements at this intersection will create safety issues. Further, the Region's minimum signalized intersection spacing is 215 metres. By introducing this new signal, the distance between the new signal and Industrial parkway would be 196 metres and will not meet this minimum spacing requirement.</i></p> <p>Metrolinx Resoponse:</p> <p><i>Acknowledged. TIA updated to note the Region's concern about the potential signal spacing so that it can be considered in future detailed traffic analysis that will be done as part of future expansion/modifications to, the Aurora GO Station site that may occur as Metrolinx proceeds with implementation of the recommendations from the 2016 GO Rail Station Access Plan.</i></p>
		<p>Appendix I Traffic Impact Analysis, Section 3.3.16</p> <p>Please identify those intersections recommended for rail crossing signal pre-emption and carried forward for further studies. Please provide York Region any detailed information regarding the pre-emption for review.</p>	<p>This comment is specific to the Barrie Rail Corridor Expansion Project (BRCE). A written response addressing comments on signal pre-emption was provided by the BRCE Transit Project Assessment Process (TPAP) project team on Sep 08, 2017 . Please note that the GO Rail Network Electrification and BRCE projects are being assessed as separate TPAPs with consideration for areas of overlap. We will continue to coordinate between ongoing Metrolinx TPAPs so that all stakeholder comments are addressed, documented in the respective Environmental Project Reports and considered during detailed design.</p> <p>Please see below for the response provided by the BRCE :</p> <p>York Region Comment # 115</p> <p><i>It is reported in Section 3.3.16, page 27 that Wellington Street at-level crossing warrants consideration of a grade separation or signal pre-emption. At the same time, a new signal at Ross Street is also recommended. These two recommendations contradict each other i.e. signal at Ross Street will not be needed in case of grade separation.</i></p> <p>Metrolinx Response:</p> <p><i>Even with a grade separation of the Wellington Street crossing, signalization of the Ross Street intersection (or an alternative access to Wellington Street) may still be necessary if the potential future parking supply assumed in the TIA are implemented at the current GO Station site.</i></p> <p>York Region Comment # 116</p> <p><i>For Aurora Station, all the traffic analyses presented in the report were based on the at-grade rail crossing. A traffic study should be conducted with the rail grade separation scenario, access to parking lot and new road network need to be identified and traffic analysis be conducted with the new traffic patterns. The report raise the possibility of signalizing the intersection of Wellington and Ross St, and with rail preemption. The consultant needs to conduct further analysis to confirm if the warrants are met for rail pre-emption with the latest Transport Canada Standards.</i></p> <p>Metrolinx Response:</p> <p><i>Future Grade Separations have not been assessed as part of this TPAP and are subject to separate EAs. Metrolinx has evaluated 185 public road/rail crossings across the entire GO network as part of the GO RER initiative. Metrolinx is developing a priority list (based on defined criteria) as part of the System-Wide Grade Separation Study for addressing congestion and other concerns at existing at-grade rail/road crossings. A separate traffic study will be conducted for these future grade separations as part of these separate EAs. The potential for the Ross Street intersection signalization is dependent on potential future plans for expansion or re-configuration of the Aurora GO Station, and/or a grade separation on Wellington Street, therefore no additional analysis for rail pre-emption will be conducted at this time. The BRCE TIA has been revised to note in Section 3.3.16 that any future consideration for signals at Ross Street will include a detailed assessment of the signal pre-emption requirements and/or constraints.</i></p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			Currently, we only have information on the existing crossings with pre-emption and are not at a stage of changing or adding signal pre-emption due to future increase in service levels. We will share the information with the Region once available.
Township of King	TPAP Phase	According to Metrolinx their noise and vibration analysis is only concerned with the levels generated for each train pass, based on Metrolinx and MOECC criteria. There will be no analysis or evaluation based on frequency. Its seems to us that increasing the number of trains from 12 per day to 152 trains per day (estimated based on 19 hours of service; 4 per hour; both ways) is going to have a considerable effect.	<p>We assume you are primarily referring to potential vibration impacts, as you note “...analysis is only concerned with the levels generated for each train pass by...” We wish to clarify that vibration impacts are assessed on the basis of individual train pass-by’s in accordance with the 1995 MOEE/GO Transit Protocol for Noise and Vibration Assessment. Vibration impacts are a function of the intensity (and not the frequency) of the vibration energy, specifically the instantaneous particle velocity, (i.e., the movement of energy through the ground medium), which is typically measured in mm/sec. In practice, vibration impacts are mainly driven by how heavy the train is and how close to receptors it comes. It may not seem intuitive, but having more trains go by does not mean vibration impacts will necessarily increase. However, if the train is closer to the receptor, or crosses over a new switch, there is potential for vibration impacts to increase; therefore the vibration analysis undertaken focused on areas where these conditions were applicable.</p> <p>To provide further clarification, noise is not assessed on the basis of singe train pass-by’s. The analysis presented in the Noise & Vibration Modelling Report (EPR Appendix G) did consider the increased impact of adding more service/more trains to the corridors (i.e., RER service) in the context of average noise level due to the increased train traffic. Future, increased rail traffic levels were used to predict noise impacts averaged over daytime hours (7 AM – 11 PM) and night-time (11 PM – 7 AM), and results were compared to appropriate noise criteria as set out in the 1995 MOEE/GO Transit Protocol for Noise and Vibration Assessment.</p>
		The consideration given to heritage properties is only for ‘designated’ properties and no consideration is given to ‘listed’ properties. This differentiation between the properties does not seem material to the assessment. If the properties have been noted as having significant heritage value to the community it/they should be included in the assessment. In addition, the only properties that are considered are adjacent to the rail corridor. I would suggest that the criteria should be based on a buffer distance. King City is an old community with small lots. There may be impacts beyond the adjacent property.	<p>To provide clarification, no adverse cultural heritage effects are anticipated outside of the study area (i.e., the OCS/Vegetation Clearing Zone and proposed sites for Tap/Traction Power Facilities). There are no property impacts anticipated along the rail corridors in relation to installing the proposed Overhead Contact System infrastructure (OCS poles, wires, etc.) required for electrification. Based on the conceptual design prepared as part of the TPAP, the proposed infrastructure and vegetation clearing will be confined to the 7m zone as outlined in Draft EPR Volume 1.</p> <p>To provide additional clarification related to the scope of the cultural heritage work: based on the size of the project and range of potential impacts, the Cultural Heritage Screening Report and Cultural Heritage Impact Assessment were scoped to address the area within which potential effects will be assessed. For the GO Network Electrification TPAP, the Study Area includes: potentially affected bridges/overhead structures along the rail corridor right-of-ways (ROW), electrification facility (TPS, SWS, PS) sites, and modified maintenance facility sites. For the purposes of the CHSR, the following data collection approach was undertaken:</p> <ol style="list-style-type: none">1. Identification of known and potential Provincial Heritage Property (PHP) and Provincial Heritage Property of Provincial Significance (PHPPS) located within Metrolinx owned rail corridors for purposes of compiling an inventory of baseline conditions. This identification considered both designated properties and properties listed on municipal heritage registers or inventories.2. Identification of bridges and overhead structures subject to potential impacts and which include known and potential Provincial Heritage Property (PHP) and Provincial Heritage Property of Provincial Significance (PHPPS). This identification considered both designated properties and properties listed on municipal heritage registers or inventories.3. Identification of known and potential built heritage resources and cultural heritage landscapes located at potentially impacted GO Stations as well as properties proposed for traction power supply and distribution facilities. This identification considered both designated properties and properties listed on municipal heritage registers or inventories.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>4. Protected heritage properties located adjacent to rail corridors, and which includes property designated under Parts IV, V or VI of the Ontario Heritage Act; property subject to a heritage conservation easement under Parts II or IV of the Ontario Heritage Act; property identified by the Province and prescribed public bodies as provincial heritage property under the Standards and Guidelines for Conservation of Provincial Heritage Properties; property protected under federal legislation, and UNESCO World Heritage Sites.</p>
City of Toronto	TPAP Phase	<p>Air Quality/Noise and Vibration</p> <p>The baseline considered for both the air quality and noise assessments are not consistent with FTA standards or best practice. No noise measurements are included and air quality emissions from existing diesel trains are not considered.</p> <p>Cumulative impacts are not adequately considered.</p> <p>Mitigation for noise and vibration impacts is not sufficiently considered. For example, where sound barriers are not considered to be effective, no further mitigation was proposed.</p> <p>The analysis does not address whether City noise standards at receptors will be met post the project consistent with EIA standards and best practice.</p> <p>Health impacts are not considered.</p>	<p>There are no adverse air quality effects from electrification and therefore there are no cumulative effects to be considered. The air quality study considered the emissions from diesel trains in the comparison of regional impacts. Please refer to the reports provided in EPR Appendix F to the Draft EPR that was previously provided to the City.</p> <p>With respect to the noise and vibration assessment, the cumulative/combined effects of electrification and future/planned RER service levels were in fact captured in the Noise/Vibration assessment study undertaken – as outlined in the Noise and Vibration modelling reports contained in EPR Appendix G.</p> <p>The identification of Mitigation measures for noise and vibration was based on the requirements of the MOEE/GO Draft Protocol. For noise, the investigation of mitigation was limited to noise barriers with heights of 5m. For the purposes of the N&V study a noise wall of 5m in height that resulted in at least a 5dB reduction in noise was considered technically feasible. The draft EPR report showed all non-technically feasible barriers as well, this has now been removed from the final EPR report as a result of discussion with MOECC.</p> <p>Although Metrolinx as a Provincial Agency, is not subject to municipal by-laws, Metrolinx (and it’s Contractor) will endeavour to adhere to these local by-laws as a best practice, where practical. Metrolinx will continue to communicate and engage with local municipalities during the subsequent detailed design phase.</p> <p>Potential effects related to health were considered and documented in the context of the following studies that were prepared in support of the EPR: a) Air Quality Baseline and Impact Assessment Study (EPR Appendix F), b) Noise and Vibration Modelling Reports EPR Appendix G), c) Electromagnetic Interference/Electromagnetic Fields Baseline and Impact Assessment Report (EPR Appendix J). The results of these detailed studies are also summarized in the Final EPR document.</p>
		<p>The responses provided to comments 164, 165, 167 and 169 mentions that a modelling assessment of EMC was not completed due to lack of information regarding the rolling stock. However, the modelling referred to in the comment is Traction Power modelling as traction power will be the main source of any EMF/EMI from the project and is required to be analysed in the further assessments undertaken at the next stage. The comment does not suggest any additional EMC modelling is needed at the current stage.</p> <p>It is recommended that the following items be added to the list of items highlighted in Volume 5 Section 1.14 to be included in the EMC Control Plan:</p> <ul style="list-style-type: none">• The results of the Traction Power modelling (this will probably be undertaken as part of the traction design) used for further EMF/EMI Analysis.• An EMC Hazard log identifying any EMF/EMI hazards and how they will be mitigated/managed.	<p>The following commitments are documented in the Final EPR – Volume 5 as it relates to EMI/EMF/EMC and will be fulfilled as part of the detailed design and implementation phases of the project:</p> <p>1.14 Electromagnetic Interference (EMI)/Electromagnetic Fields (EMF)</p> <p>An Electromagnetic Fields (EMF) and Electromagnetic Interference (EMI) Assessment was carried out as part of the GO Rail Network Electrification TPAP to document existing EMF and EMI conditions within the study area and to determine the potential effects of implementing an electrified GO system related to EMF and EMI. The results of this assessment recommended that additional studies and analyses will need to be carried out during the future phases of the project, and once the electric train specifications are known. All recommendations for mitigation and future study as identified in the GO Rail Network Electrification EMI/EMF Impact Assessment Report (see Appendix J to this EPR) will be implemented.</p> <p>The following section outlines the commitments Metrolinx and Hydro One will adhere to during future phases of the project following TPAP completion.</p> <p>Also refer to Sections 1.3.1.10 and 1.3.1.11 for related commitments pertaining to NAVCanada and GTAA.</p> <p>1.14.1 Electromagnetic Compatibility Control Plan</p> <p>Metrolinx will prepare and implement Electromagnetic Compatibility (EMC) Control Plan, to communicate the design and</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>development strategy for EMC general (including both ELF and EMI) and to catalogue the types of electronics that will be installed.</p> <p>For both Extremely Low Frequency (ELF) Electromagnetic Fields (EMF) and Electromagnetic Interference (EMI), industry-standard mitigation measures will be applied as well in applicable standards and references documented in the Appendix of the EMI/EMF Impact Assessment Report (see Appendix J to this EPR). During detailed design, further analysis and measurements will be carried once the electric rolling stock specifications are known in order to ensure EMI immunity and emissions compliance for the electrified GO system.</p> <p>As per the American Public Transportation Association (APTA) Standard SS-E-010-98, the EMC Control Plan should include but not be limited to:</p> <ul style="list-style-type: none">• Characterizes potential EMI sources and hazards to transit/rail operations;• Considers low-cost, no-cost options, or best practices for EMI prevention, control and mitigation techniques. Examples are: posted warning signs to control access, fencing, and shielding of substations, or grade crossing access, as needed);• Considers best practices in EMI susceptibility control procedures. Examples are: active or passive shielding, cathodic protection, surge protection, fail-safe circuit redesign, changed location of antennas or susceptible equipment, redesign of equipment, enclosures for equipment, etc.);• Utilizes current EMC guidance and resources for transit electrification developed by EPRI, AAR and AREMA as discussed in Sec. V B EMF Modelling and Measurement Tools.;• Includes (or references) a safety analysis and failure analysis of the transit system;• Addresses grounding or shorting hazards, prevents, controls or mitigates as needed stray currents (earth-return currents or induced currents in metallic structures and pipelines or along the return rails (where some fraction of the current finds its way back to substation or generating station through the earth for various regions and soil conditions), and the effects of different design and construction practices on these currents; (This list of frequencies is a key input to the detailed, post-electrification EMI scans taken at each TPF and compared to required levels in EN 50121.)• Characterizes the frequency bands, spectral characteristics of ELF/EMF and RF generated noise by the pantograph-catenary contact under operating conditions;• Characterizes along the right-of-way parameters (e.g., frequency spectrum, electric and magnetic field strengths, modulation system) for the wireless communications, control, and power and propulsion system (including auxiliary power for HVAC, emergency lighting and signage, public address, etc.). <p>The EMC Control Plan will include provisions for: immunization of freight track circuits & grade crossings as well as immunization of compatible track circuits, impedance bonds as well as bonding & grounding for TPS currents.</p> <p>1.14.1.1 EMC Requirements – Freight and VIA</p> <p>Electrification of the GO Network will entail certain modifications to the operations/maintenance practices of freight operators (Canadian National Railway, Canadian Pacific Railway) and VIA Rail which may include the following. Metrolinx will continue to coordinate and consult with CN, CP, and VIA as appropriate during detailed design where there are interfaces with freight/VIA territory. The following commitments will be adhered to post TPAP:</p> <ul style="list-style-type: none">• Track Circuits & Grade Crossings will need to be immunized (this will be included in the provisions of the EMC Control Plan to be developed during detailed design).<ul style="list-style-type: none">◦ Where track is adjacent to Metrolinx electrification<ul style="list-style-type: none">▪ Within Overhead Contact Line Zone (OCLZ).

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none"><ul style="list-style-type: none">Possibly beyond the OCLZ for induced effects (range will be confirmed during detailed design).Where electrified track crosses over (considered within OCLZ)Where electrified track abuts non-electrified track<ul style="list-style-type: none">Electrified track to third party owned interface locations.Electrified track to third party unsignalled track (e.g. yards) requires TPS return.Immunization includes compatible track circuits, impedance bonds as well as bonding & grounding for TPS currents (this will be included in the provisions of the EMC Control Plan to be developed during detailed design). <p>1.14.2 Frequency Management Plan</p> <p>A frequency management plan will be developed and implemented by Metrolinx during the detailed design phase. This plan is needed to capture the operating frequencies at the system engineering level from all intentional radiators in the vicinity of the railway.</p> <p>1.14.3 Construction Phase</p> <p>Ensure compliance with requirements as outlined in EN 50121, IEEE C63.12, AREMA Signalling and Control Manual 11.5.2, IEC 61000 and other relevant EMC standards by product manufacturers. The manufacturers will be required to provide compliance test results and supporting documentation to Metrolinx during the project construction phase.</p> <p>1.14.4 Commissioning Phase</p> <p>During the electrification commissioning phase, overall ELF and RF emissions emanating from the GO electrified railway system as a whole (including emissions from all the electrified tracks, OCS, TPFs, RRMF, and EMU trains) will be field tested and verified to ensure EMFs are within the limits of applicable industry standards.</p> <p>1.14.5 Operations/Maintenance Phase</p> <p>Undertake testing and maintenance procedures in order to mitigate EMI to track circuits and increase personnel safety due to EMI induced common mode voltage.</p> <p>1.14.6 EMF Exposure Reduction</p> <p>Baseline EMI/EMF measurements will be taken before (initially completed as part of the GO Rail Network Electrification EMI/EMF Baseline Conditions – see Appendix J) and after the electrified transit system construction and operation. The objective is to compare the pre-existing “before” background EMF levels, with expected “after” construction EMF. This allows the determination of incremental EMF contributions from the planned electric transit system.</p> <p>Therefore, during detailed design, verification and/or re-baselining of “before” background EMF levels along the GO rail corridors to be electrified will be undertaken using the data contained in the GO Rail Network Electrification EMI/EMF Baseline Conditions and/or Impact Assessment Report (see Appendix J) as baseline/background information as appropriate.</p> <p>1.14.7 Additional Studies – Tap/TPF Sites</p> <ul style="list-style-type: none">Carry out detailed design and implementation for each Traction Power Facility following the general guidelines of the EMC Control Plan;Verification/re-measurement of EMI emissions and ELF at each TPF site as outlined in Volume 3 and Appendix J, and comparison of those measurements with those documented in the GO Rail Network Electrification EMI/EMF

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>Baseline and Impact Assessment Reports (see Appendix J) to verify background measurements as part of detailed design.</p> <p>1.14.8 Hydro One – Tap Sites</p> <p>During the design of the Tap, Hydro One will take EMF into account and minimize EMF where possible.</p> <hr/> <p>With respect to your inquiry regarding the results of the Traction Power modelling being used for further EMF/EMI Analysis:</p> <p>The power model results will be used in the EMF/EMI Analyses where possible or practical, depending on the final design.</p> <p>With respect to your inquiry regarding an EMC Hazard log:</p> <p>There is no applicable code or standard that specifically requires the use of Hazard Log. In addition, it should be noted that the use of a hazard log is only one potential method/component of an overall EMC Control Plan and the exact content of the Plan is to be developed by the Contractor as part of Detailed Design. Please refer to the description above as to what elements are expected to be included in the EMC Control Pan.</p>
		The GO engineering standards provided do not address our concerns around public facing design elements such as retaining walls, noise walls, bridge barriers, abutments, fencing etc. For one, the context where these have been installed in the past is completely different from many of the proposed locations in the core of the city where we have tight fine grain urban conditions with adjacent sensitive uses. The distance between the rail corridor and adjacent land use is often constrained, therefore the ability to mitigate impact with distance is not an option and design intervention around buffering and contextual fit will be required.	Metrolinx has established design workshops with the city to address public facing design issues. These workshop meetings will develop concept solutions to address land constraint issues.
		As this is beyond what is anticipated in the TPAP process at this time, we propose that the City and Metrolinx convene a joint design excellence working group which looks at developing these various elements as we work through the design process. We would also like to see a commitment as partners is this process for Metrolinx and the City of Toronto to undertake a series of joint Design Review Panels to review these material and impacts at sensitive locations. We would also like to see a commitment to local public consultation regarding the design of public facing elements as they relate to specific neighbourhoods and parks.	Metrolinx has established design workshops with the city to address public realm design issues. These workshops will continue to work through issues and refine concepts after the TPAP process is completed. Through these workshops the strategies for joint Design Review Panels and public consultation will be worked out.
		Provide an update on the vegetation compensation policy that is underway. Please ensure that the policy calls for a reasonable time limit in which Metrolinx must compensate for removed or damaged vegetation, and a method for working with the City of Toronto Parks, Forestry and Recreation to determine appropriate locations for replacement planting. Please also include information on the long term maintenance of these 7 metre vegetation free zones.	<p>Metrolinx is currently working internally to finalize the approach to vegetation compensation for all Regional Express Rail projects including Electrification. Metrolinx will be looking to partner with Municipalities and Conservation Authorities to develop the final compensation plan.</p> <p>For municipal trees Metrolinx will follow the provisions of existing municipal bylaws associated with tree removal and compensation. Project Co. will be responsible for maintaining safety of the rail corridor including the long term maintenance of the 7 metre vegetation free zone.</p>
		Response 229 reads “Metrolinx will certainly look for opportunities to minimize the footprint of our transit expansion infrastructure where possible. This includes looking for opportunities to integrate OCS infrastructure with other infrastructure such as retaining walls and noise walls. These opportunities will be reviewed for economic and technical feasibility.” Integrate this commitment into all RER projects underway or in the future,	Comment noted.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		and make this the official policy of MX, so that opportunities to reduce impact by integrating electrification and expansion infrastructure are not overlooked.	
		Require a decision on the Dufferin bridge so that the LRT extension may proceed. It is a key City Planning objective	Metrolinx is currently engaged in discussions with City of Toronto regarding the Dufferin bridge including LRT extension. This is being addressed through a separate process outside of the Electrification TPAP.
		Bridge Modification- Vol 1 Section 3.9.3 page 136 Final paragraph sentence beginning with - "as part of the TPAP, for each of these proposed solutions, it has been assumed that all impacts will be confined to Metrolinx's rail ROW and that no footprint impacts on adjacent land uses will occur outside of the current Metrolinx ROW". What is the intent of this statement and can impacts be confirmed at this stage? It should be removed if the very next line acknowledges that any impacts occurring outside of Mx rail ROW will need to be confirmed at the detailed design phase.	<p>Potential impacts within the GO Rail Network Electrification TPAP study area (which includes the OCS impact zone/vegetation clearing zone – i.e., a 7m buffer area on either side of the tracks as outlined in Section 2.3 of EPR Volume 1) along each rail corridor and at all Tap/TPF sites were assessed in detail and documented in the EPR and the associated 11 technical and environmental studies contained in EPR Appendices A through K.</p> <p>The statement in EPR Volume 1, Section 3.9.4 is relevant and will remain in the EPR. The reason this has been included is to denote the fact that for specific bridges that require replacement such as Dufferin, Dowling, Dunn and Jameson, the full extent of any environmental impacts that may extend outside of the defined study area for the GO Rail Network Electrification TPAP will be assessed through a TPAP Addendum process – which is outlined in bold text below:</p> <p><u>Excerpt from EPR Volume 1 – Section 3.9.4:</u></p> <p>Based on the conceptual design prepared as part of the TPAP, preliminary solutions to these clearance issues have been established as outlined in the relevant sections that follow and may involve: bridge raise/replacement, tracker lowering, reduction in track maintenance allowance, restricting freight to certain tracks, or other engineering solution. It should be noted that the design solutions for each of the bridges will need to be finalized as part of the subsequent detailed design phase of the project. As part of the TPAP, for each of these proposed solutions for bridge structures requiring replacement, it was assumed that any/all environmental impacts would be confined to within the Metrolinx owned rail ROW/existing pedestrian bridge footprint. Notwithstanding this, any potential environmental/land use/property impacts that may occur outside of Metrolinx's ROW/existing pedestrian bridge footprint as a result of the final design solution will need to be confirmed as part of the detailed design phase, which may entail carrying out additional EA/TPAP studies and/or EA/TPAP Addendum(s).</p>
		In the future, detailed collaboration with City staff is required for the entire USRC (Union station inclusive) between Bathurst and Don River, and this should be made clear in the finalization of EA commitments and development of the PSOS documents.	A commitment specifying this will be added to Final EPR Volume 5 and in the contract documents.
City of Mississauga	TPAP Phase	In the Executive Summary, the HIA states that the bridge is *not* currently listed under the Ontario Heritage Act. This is incorrect. The bridge *is* listed. All of the City's Cultural Landscapes are currently listed on the City's Heritage Register. Please revise.	<p>Thank you for providing comments on the Heritage Impact Assessment (HIA) for the Credit River Bridge. The HIA has been updated to reflect that the bridge is listed on the City of Mississauga Heritage Register and is also identified in the City's Cultural Landscape Inventory. The revised version of the HIA will be appended to the Final EPR, which will be made available for a 30-day public review period upon issuing the TPAP Notice of Completion on October 11, 2017.</p> <p>Please note that the CHER for the Credit River Bridge was previously provided to the City of Mississauga as part of the Draft EPR circulation for review agency comments in January 2017. The CHER was subsequently updated based on comments received from the City (Comment #10 of the attached document) as indicated in Metrolinx's response issued June 23, 2017. The revised version of the CHER will also be appended to the Final EPR.</p>
CONSERVATION AUTHORITIES			
Halton Region Conservation Authority	TPAP Phase	We review the response letter. Will you be also sending the final documents for review?	We have just issued the Notice of Commencement which starts the 120 day TPAP process. The Final Environmental Project Report (EPR) and accompanying environmental/technical reports will be made available to stakeholders and the public for a 30 day review upon submission of the Notice of Completion. HRCA will be provided with a copy of the Notice of Completion as well as information regarding how to access the final reports.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Lake Simcoe Region Conservation Authority	TPAP Phase	<p><u>Stormwater Management</u></p> <p>The Metrolinx response to LSRCA Comment #7 does not adequately address our previous comment. Peak flow controls are required by the Conservation Authority whenever, in our opinion, the control of flooding or erosion may be affected by a development. This applies regardless whether or not the site is considered “major development” as defined by the Lake Simcoe Protection Plan.</p>	<p>To provide further clarification: consideration for peak flow controls for all proposed Traction Power Facility sites was included within the Preliminary Stormwater Management Assessment Report (provided as Appendix K to the Draft EPR, circulated to LSRCA in January 2017) and commitments for further analysis were indicated in original response to Comment #7 as follows:</p> <p><i>“...However, as stated in the response to Comment #6 above, vegetated ditches and bio-swales are proposed <u>for all sites</u> to provide <u>peak shaving</u>, runoff quality and water balance for the development area. Details for these measures will be provided at subsequent stages of detailed design.”</i></p> <p>Peak shaving will include the reduction of flows to as close to pre-development levels as possible given the small impervious areas of the development (less than 0.5 ha). In addition, infiltration measures will be considered during detail design for peak flow control. Finally, as outlined in the Preliminary Stormwater Management Assessment Report, the erosion control criteria will be met by infiltrating 5 mm of runoff within the proposed bio-swale as part of final design</p> <p>As outlined in the GO Rail Network Electrification EPR Volume 5, please note:</p> <p>As a Crown Agency, Metrolinx is exempt from the <i>Conservation Authorities Act</i> and as such does not have a requirement to apply for and obtain permits from Conservation Authorities. Notwithstanding this, wherever possible, Metrolinx will engage Conservation Authorities on specific projects (or components thereof) and will adhere to requirements when and where possible and feasible on aspects such as:</p> <ul style="list-style-type: none">• Tree protection and removal/injury;• Sewer discharge;• Requirements for work/activities (e.g., excavated material removal) within the limits of Regulated Areas as defined under the Conservation Authorities Act. <p>It should be noted that the GO Rail Network Electrification EPR also contains the following specific SWM commitments:</p> <p>Traction Power Facility Design Commitments (SWM)</p> <p>The following additional studies/work/commitments will be carried out and adhered to during detailed design with respect to stormwater management (SWM):</p> <ul style="list-style-type: none">• During detailed design, a detailed stormwater management plan/design will be carried out and will address: quantity control, erosion control, and quality control. Specifically:<ul style="list-style-type: none">○ A more detailed analysis for the quantity, quality, erosion control and water balance will be required at detailed design stage.○ The proposed development areas and their locations used in the preliminary SWM assessment as documented in Volume 3 were based on conceptual design; therefore reassessment of the drainage areas will be required at the subsequent detailed design stage.• The stormwater management plan/design will be developed in consultation with Conservation Authorities and other applicable review agencies, as appropriate.• Implement the stormwater management plan/design prior to commencing operation of the GO Rail Network Electrification project.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<ul style="list-style-type: none">Each tap/traction power facility will be designed such that flooding will not affect proper functioning of the facility and will not result in adverse environmental effectsFor flood-proofing of the relevant Tap/TPF sites, the facilities will be built 0.3m above the floodplain.Where sensitive/endangered fish/fish habitat may be identified near the Tap/TPF sites during detailed design, the final design of the SWM features shall take these features into consideration to ensure the SWM facilities will not negatively affect aquatic features.
		<p>Natural Heritage</p> <p>The Metrolinx response to LSRCA Comment #2 addresses the potential loss of vegetation on lands owned by the LSRCA. Please be advised that LSRCA’s comments pertaining to the loss of and impact to Natural Heritage Features are not solely focused upon lands owned by the LSRCA, but rather address the loss of and impact to Natural Heritage Features throughout the entire watershed. To date, we have not been contacted to further discuss the proposed compensation protocol since our first discussion in October 2016.</p>	<p>As outlined in the Draft EPR, with respect to Tree/Vegetation Compensation, Metrolinx is currently developing a Tree/Vegetation Compensation Protocol in consultation with municipalities and Conservation Authorities. In addition, tree inventories will be undertaken during detailed design to determine the amount of vegetation that will need to be removed. Once the details of the Protocol have been drafted, they will be shared with Conservation Authorities.</p>
		<p>Natural Heritage</p> <p>The Metrolinx response to LSRCA Comment #21 only discusses short term impacts when the comment is specific to long-term impacts. The reports identified in Appendix F and Appendix G are related to human long-term impacts and not those requested as part of the comment such as physiological processes like breeding /roosting/foraging birds, fish migration through culverts and mammal migration. Metrolinx should focus on the long-term impacts which may shift physiological process permanently in order to determine appropriate mitigation or offsetting.</p>	<p>It is important to note that electrification infrastructure is being ‘added to’ existing GO Transit rail corridors, and that the scope of the GO Rail Network Electrification TPAP does not include or assess the impacts of adding additional tracks.</p> <p>It should be noted that Metrolinx is assessing the impacts of adding new tracks as part of separate EAs/ TPAPs. For your reference, we have provided the following link to the Barrie Rail Corridor Expansion TPAP and corresponding Environmental Project Report (dated August 2017): www.metrolinx.com/en/regionalplanning/rer/rer_barrie.aspx, which included an assessment of new track infrastructure upgrades to achieve future increased service levels along the Barrie Corridor. A discussion of potential long-term effects to wildlife are described in Section 6.1.1.3 of the Natural Environment Report (EPR Appendix A) prepared for that project. The study determined that due to existing train traffic along the corridor, habitats for sensitive species are limited adjacent to the Metrolinx ROW and are enough to deter most sensitive species. Therefore, given the existing conditions, any increase in train noise and activity is likely to have a minimal effect.</p>
Toronto and Region Conservation Authority	TPAP Phase	<p>Toronto and Region Conservation Authority (TRCA) staff received a digital submission of the comments log with Metrolinx responses to TRCA comments on the Draft Environmental Project Report (EPR) for the above noted project on July 13, 2017. No revised reports or documents were submitted along with the comments log. Staff has completed the review of the comments log and provides the following for your consideration. Detailed comments are provided in the comments log (attached).</p>	<p>To provide clarification, revised reports/documents were not intended to be submitted with the comment/response log provided to TRCA in July. Rather, the purpose of circulating the Draft EPR package to review agencies in January 2017 was to solicit comments and feedback prior to issuing the Notice of Commencement so that these comments could be addressed, as required, as part of preparing the Final EPR. Please note that the Final EPR + Appendices will be posted publicly for a 30 day review period upon issuance of the TPAP Notice of Completion on October 11, 2017. An electronic copy of the Final EPR package will be provided to TRCA upon issuance of the Notice of Completion.</p> <p>Please note we have also provided responses to each of your comments in the attached comments log/table.</p>
		<p>It is our understanding that Metrolinx will expand GO Transit to enable 15-minute service on most corridors with electrified trains, which will enable faster and increased service. The Network Electrification EA examined the conversion of the following six (6) rail corridors within the GO Transit network from a diesel based rail system to electric based rail system including potential locations for the required electrical power supply and distribution facilities:</p> <ol style="list-style-type: none">1. Union Station Rail Corridor – From UP Express Union Station to Don Yard Layover2. Lakeshore West Corridor – West of Bathurst Street to Burlington3. Kitchener Corridor - UP Express Spur to Bramalea	<p>Acknowledged. It should be noted that the scope of the GO Rail Network Electrification TPAP does not include the assessment of impacts associated with track expansions, grade separations, etc.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
		4. Lakeshore East Corridor - Don Yard Layover to Oshawa GO Station 5. Barrie Corridor - Parkdale Junction to Allandale GO Station 6. Stouffville Corridor - Scarborough Junction to Lincolnville GO Station The EA includes the design and implementation of the traction power supply system and power distribution components including an Overhead Contact System (OCS) comprised of wires that provide power to the trains along and over the track as well as a number of electrical power supply/distribution facilities located within the vicinity of the rail corridors. It is understood that electrical power will be supplied from Hydro One’s existing grid routed either from aerially or underground to new Metrolinx Traction Power Substations.	
		Staff provided Metrolinx with key TRCA policy objectives, recommendations and comments on the Draft EPR in previous correspondence. It is noted that Metrolinx has deferred response to key issues in the Environmental Project Report (EPR) to the detailed design phase indicating that the final EPR will be revised to reflect the commitments to TRCA’s the Living City Policies are met. Metrolinx has also stated that further discussions and coordination with TRCA will be undertaken “as appropriate” (item #1, 3, 4, and 5 of comments table) during the detailed design with respect to the Living City Policies.	We can confirm that the Draft EPR – Volume 5 (Section 1.3.3.4.1 Toronto Region Conservation Authority) contains the following commitment: <ul style="list-style-type: none">Further discussions and coordination with TRCA will be undertaken as appropriate during detail design with respect to Living City Policies.
		TRCA also understands that as a Crown Agency, Metrolinx is exempt from the Conservation Authorities Act and commends the efforts made by Metrolinx to incorporate TRCA technical input in the TPAP and detailed design process but wording in the EPR stating “as appropriate” is vague as it is not clear how or who will ascertain the “appropriateness”. This needs to be clarified and revised to a confirmation of commitment. Particularly, as it is a shared objective of TRCA’s the Living City Policy and Metrolinx’s Sustainability Strategy to avoid and minimize impacts on the ecosystems/natural habitats/systems, concerted efforts must be made to realize these objectives. Furthermore, staff reiterates that it is TRCA’s policy that where there may be a need for transit infrastructure to cross regulated areas or site transit infrastructure within natural hazard lands, efforts must be made to minimize and compensate for the impacts in accordance with TRCA standards and this needs to be reflected strongly in the commitment’s wording.	As outlined in Section 1.3.3.4 Conservation Authorities of Draft EPR Volume 5 as a Crown Agency, Metrolinx is exempt from the Conservation Authorities Act. However: <ol style="list-style-type: none">Metrolinx will instruct our contractor to follow applicable law such as the Conservation Authorities Act. If exemptions to the act are required for the project, Metrolinx will negotiate with TRCA to develop a resolution.It is Metrolinx’s goal to minimize any ecosystem impacts. However, Metrolinx is developing a vegetation management strategy that will address impacts to ecosystems. Although this strategy hasn’t been finalized, the intent is to partner with conservation organizations to develop projects to ensure no net loss of ecosystem services in the city. Section 1.7.5 Implementation of Tree/Vegetation Compensation Protocol within Draft EPR Volume 5 contains further information on implementation of the Tree/Vegetation Compensation Protocol.
		TRCA was working in partnership with Metrolinx in establishing a compensation protocol for vegetation removals and a draft compensation protocol was provided for review to Metrolinx in Fall 2016 for review. Staff also attended the first round of public meetings in fall 2016 in order to assist Metrolinx staff and consultants. Staff notes that Metrolinx is working with their consultants on establishing a new Vegetation Compensation Protocol for Metrolinx projects and that vegetation that will be removed in the construction of this project will be compensated for in accordance with the provisions of this protocol. Please note that TRCA has not been engaged in the development of the new protocol nor has the protocol been provided to TRCA for review and commenting. It is not clear from the Metrolinx responses (item #6 and 10) the commitment to be included in the final EPR regarding vegetation removal compensations. TRCA staff understands that compensation for vegetation removals within the TRCA regulated areas within the TRCA jurisdiction will occur based on TRCA’s compensation requirements for the loss of ecosystem services.	As outlined in the Draft EPR, Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Regional Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol. More specifically, the intent of the protocol will be as follows: <ul style="list-style-type: none">Within TRCA owned land, Metrolinx will follow TRCA compensation requirements.For TRCA regulated lands that Metrolinx owns, the Metrolinx Tree/Vegetation Compensation strategy will apply.For TRCA regulated lands that Metrolinx does not own, then applicable law will apply regarding permitting requirements, etc.
		Staff reiterates that TRCA’s infrastructure policies seek to first avoid, then mitigate, remediate and where unavoidable, compensate for the impacts of infrastructure on the Natural (heritage) System. TRCA suggests that discussions on compensation take place as early in planning process as possible. This will allow for informed discussions and avoid delays. Furthermore, the difference between the “conservation authority lands” and “areas falling within regulation limits of conservation authorities” needs to be clarified as it is not clear whether	As per the Natural Environment Impact Assessment (refer to Appendix A2 of the Draft EPR previously circulated to TRCA in January 2017), ‘footprint impacts’ including vegetation/tree removals were quantified within the conservation authorities Regulated Areas as identified by the Conservation Authorities Act and associated Ontario Regulations (O. Reg. 116/06 for TRCA) as well as within Conservation Area lands owned by various conservation authorities. Metrolinx is

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx												
		the “conservation authority lands” refers to lands/properties owned by conservation authorities (viz-a-viz, TRCA here) or if it refers to the areas falling within the regulation limits/regulated areas of the conservation authorities.	<p>establishing a Vegetation Compensation Protocol for Metrolinx Regional Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>As outlined in the Draft EPR, for vegetation/tree removals within conservation authority lands where required, applicable removal and restoration requirements will be followed.</p> <p>More specifically, the intent of the protocol will be as follows:</p> <ul style="list-style-type: none">• Within TRCA owned land, Metrolinx will follow TRCA compensation requirements.• For TRCA regulated lands that Metrolinx owns, the Metrolinx Tree/Vegetation Compensation strategy will apply.• For TRCA regulated lands that Metrolinx does not own, then applicable law will apply regarding permitting requirements, etc.												
		Staff understands that Metrolinx and Hydro One, as co-proponents are carrying out the Transit Project Assessment Process (TPAP) for network electrification. Staff understands the majority of Hydro One shares (50.1%) have been sold and therefore they are no longer a Crown corporation and that Hydro One is currently seeking a legal opinion about operations under the exception provisions of Section 28(10)(d) of the Conservation Authorities Act. The direction through Conservation Ontario is to carry on as per current practice under the provisions of the existing MOU with Hydro One, until such time as otherwise advised. The MOU prescribes the communication process to be followed between Hydro One and conservation authorities, as well as best management practices that may be implemented by Hydro One when carrying out construction or maintenance operations. Consultation with conservation authorities is required prior to all planned and emergency activities and permission to enter is required for works on conservation authority owned lands, including access. TRCA expects Metrolinx, Hydro One and TRCA will work together towards ensuring, where unavoidable, minimum impacts to the Natural System. It is acknowledged that conservation authorities may review through Voluntary Project Review and charge review fees and as outlined in previous correspondence. As a co-proponent, Hydro One may choose to discuss participation in the Metrolinx Service Level Agreement with TRCA at the discretion of Metrolinx.	Metrolinx, Hydro One and TRCA will work together, as required, during detailed design with respect to ensuring mitigation plans for natural environmental features are adequate and appropriate.												
		Item #11 indicates that Section 3.10 of EPR Vol 1 will be updated to include information related to locations where horizontal barriers will be required along the corridors. Further, staff understands that restriction and barrier protection structures will be required for trails abutting electrified rail corridors. It is not clear at this time who will be responsible for the construction, reinforcement, enhancement and relocation of the trail infrastructure. Further clarification is required. We hope that Metrolinx and TRCA will work together to ensure that trail infrastructure is maintained, and improved where possible, that will serve the needs of current and future recreational users which is fundamental to building healthy communities.	<p>Correct – based on the analysis completed following preparation of the Draft EPR, the locations of potential locations requiring parallel barriers (previously referred to as ‘horizontal barriers’) has been established as follows; this information will be included in the Final EPR document:</p> <p>Table 1 Summary of Potential Locations Requiring Parallel Barriers</p> <table><tr><th>Rail Corridor</th><th>Mile</th><th>Side of Corridor</th><th>Type of feature</th><th>Closest Distance from Track Centre Line (m)</th><th>Parallel Barrier Required?</th><th>Proposed Mitigation</th></tr><tr><td>Union Station Rail Corridor</td><td>0+019-0+071</td><td>South</td><td>Walkway</td><td>2.9</td><td>Yes</td><td>Walkways, stairs and walls in elevated areas adjacent to track will require electrification</td></tr></table>	Rail Corridor	Mile	Side of Corridor	Type of feature	Closest Distance from Track Centre Line (m)	Parallel Barrier Required?	Proposed Mitigation	Union Station Rail Corridor	0+019-0+071	South	Walkway	2.9
Rail Corridor	Mile	Side of Corridor	Type of feature	Closest Distance from Track Centre Line (m)	Parallel Barrier Required?	Proposed Mitigation									
Union Station Rail Corridor	0+019-0+071	South	Walkway	2.9	Yes	Walkways, stairs and walls in elevated areas adjacent to track will require electrification									

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx						
			(USRC) (East)						protection (e.g., parallel barrier).
			USRC (West)	0+040-0+110	South	Walkway	3.1	Yes	Walkways, stairs and walls in elevated areas adjacent to track will require electrification protection (e.g., parallel barrier).
			USRC (West)	0+100	South	Wall alongside track	3 to 5	Yes	Walkways, stairs and walls in elevated areas adjacent to track will require electrification protection (e.g., parallel barrier).
			USRC (West)	2+200	North	Wall alongside track	<3	Yes	Parallel barriers will be required in conjunction with traditional pedestrian bridge barriers wherever the elevated pedestrian surface may bring a person within 3m of an electrified part. Walkways, stairs and walls in elevated areas adjacent to track will require electrification protection (e.g., parallel barrier).
			Lakeshore West (LSW)	3+839-3+853	North	Stairs	6.2	Yes	Walkways, stairs and walls in elevated areas adjacent to track will require electrification protection (e.g., parallel barrier).
			Barrie	5+445	West	Dundas St. Bridge (Railing)	5.3	Yes	Areas accessible to pedestrians such as landings, stairs or overhangs must be made compliant with

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx						
									the specifications for structures passing over electrified corridors. Where a landing would allow personnel within 3m of an unguarded electrified part, a barrier should be installed.
			Barrie	9+075-9+082	West	Innes Ave. Pedestrian Ramp/Bridge	3.7	Yes	This pedestrian bridge requires parallel horizontal barriers due to stairs/railing/landings that could put a pedestrian within 3m of an unguarded part.
			Stouffville	82+760 - 83+125	East/West	Depressed Corridor	3.5	Yes	Depressed corridor will require electrification protection barriers (e.g., parallel barrier).
			Stouffville	83+175	West	Wall w/ Fence	3.1	Yes	Depressed corridor will require electrification protection barriers (e.g., parallel barrier).
			Stouffville	83+345 - 83+400	West	Wall w/ Fence	3.7	Yes	Depressed corridor will require electrification protection barriers (e.g., parallel barrier).
			Stouffville	83+400 - 83+460	West	Wall w/ Fence	3.3	Yes	Depressed corridor will require electrification protection barriers (e.g., parallel barrier).
			There are no adverse effects to trails abutting electrified rail corridors anticipated due to the implementation of these barriers.						
		Further to coordination efforts with other partners that do require permits from TRCA, please note that TRCA’s standard service delivery timelines apply to all projects including utilities for processing permit applications. This needs to be considered in the context of the detailed design scheduling. If it is Metrolinx that will act as a	Acknowledged.						

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx			
		proponent of utility projects, Metrolinx’s Service Level Agreement timelines and standard permit requirements will apply.						
		Please note that TRCA requires one hard copy of any revised sections of the final document as agreed to by TRCA and Metrolinx and a digital copy of all submitted material. Please ensure that this material is provided to us for our review and records.			As discussed via phone on September 12th, a hard copy of the final EPR will not be provided, due to the size of the document. Electronic copies of the Final EPR will be made available via an FTP site for download, upon issuance of the TPAP Notice of Completion.			
		<table><thead><tr><th>Review Comment (TRCA COMMENTS)</th><th>METROLINX RESPONSE (JULY 13)</th><th>TRCA COMMENTS (AUGUST 24, 2017)</th></tr></thead><tbody><tr><td>Staff understands that the Comprehensive Tree Compensation Guidelines are under review at this time. TRCA looks forward to working with Metrolinx to develop methods of implementation of the Guidelines through the Voluntary Project Review process for projects within the scope of this EA. TRCA would be happy to discuss how best to apply them to this large scale project.</td><td><p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p><p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p><p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p><p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable</p></td><td>Response noted. TRCA suggest that discussions on compensation take place as early in planning process as possible. This will allow for informed discussions and avoid delays at detailed design.</td></tr></tbody></table>	Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	Staff understands that the Comprehensive Tree Compensation Guidelines are under review at this time. TRCA looks forward to working with Metrolinx to develop methods of implementation of the Guidelines through the Voluntary Project Review process for projects within the scope of this EA. TRCA would be happy to discuss how best to apply them to this large scale project.	<p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable</p>	Response noted. TRCA suggest that discussions on compensation take place as early in planning process as possible. This will allow for informed discussions and avoid delays at detailed design.
Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)						
Staff understands that the Comprehensive Tree Compensation Guidelines are under review at this time. TRCA looks forward to working with Metrolinx to develop methods of implementation of the Guidelines through the Voluntary Project Review process for projects within the scope of this EA. TRCA would be happy to discuss how best to apply them to this large scale project.	<p>Metrolinx is establishing a Vegetation Compensation Protocol for Metrolinx Rapid Express Rail (RER) projects and vegetation that is removed will be compensated for in accordance with the provisions of this protocol.</p> <p>For Municipal/Private Trees: Metrolinx will work with each municipality to develop a municipality-wide streamlined tree permitting /compensation approach for municipal and private trees. The goal is to reduce administrative permitting burden for trees along long stretches of rail corridor.</p> <p>For Trees within Metrolinx Property: Metrolinx is developing a methodology to compensate for trees located within Metrolinx’s property. This will involve categorizing trees community types/ ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan.</p> <p>Conservation Authorities: For vegetation removals within conservation authority lands where required, applicable</p>	Response noted. TRCA suggest that discussions on compensation take place as early in planning process as possible. This will allow for informed discussions and avoid delays at detailed design.						

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
			<p>removal and restoration requirements will be followed.</p> <p>Federal Lands: For vegetation removals within Federally-owned lands where required, applicable removal and restoration requirements will be followed.</p> <p>Tree End Use: we will develop options for the end use of trees removed from Metrolinx property e.g reuse/recycling options.</p> <p>Metrolinx is continuing to work towards the Protocol and will follow up with stakeholders that have been engaged and participated to date and provide a draft for review. The final EPR will contain commitments to the Protocol which will be made publicly available once final.</p>		
		Review Comment (TRCA COMMENTS) Figure 24 - Unionville TP – A watercourse has been identified through previous planning studies in the area immediately north of Hwy 407. This watercourse has been identified as direct fish habitat and reddsides contributing habitat. Please identify this watercourse in the report. TRCA would be happy to confirm its location.	METROLINX RESPONSE (JULY 13) This watercourse is not within the hydrographic network data that we have available through LIO. We also checked TRCA Regulated Areas mapping to confirm location of the watercourse but it is not shown on the online mapping. If TRCA can provide the location of the watercourse (and how it falls within TRCA regulated areas), this information will be incorporated into the EPR accordingly.	TRCA COMMENTS (AUGUST 24, 2017) Further to email correspondence of May 29, 2017, This watercourse is not captured by TRCA's current regulation mapping traverses the subject property. Please note, not all watercourses are captured by TRCA's regulation mapping, however, all watercourses are subject to Ontario Regulation 166/06. To determine the extent of this feature and the TRCA regulation limit, a field investigation or study would be required to be completed. Please note that CA Regulatory Limits do not appear to be shown correctly on this drawing as current TRCA mapping shows Reg Limit	TRCA Regulated Areas (in GIS format) were requested from TRCA by letter dated May 6, 2016. The TRCA Regulation Limit shapefile was subsequently received from TRCA for inclusion in the reporting on June 13, 2016 and was added to the mapping contained in the Natural Environment Impact Assessment report (Appendix A2 of the Draft EPR). Impacts from the proposed Unionville Paralleling Station (PS) on Tributary 5 were reviewed per the information received from TRCA by email on May 29, 2016. As the proposed Unionville PS is to be located on the south side of Highway 407 there will be no footprint impacts from the PS infrastructure on Tributary 5.

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
				(including floodplain) in the vicinity of YMCA Boulevard. Please to David Phalp regarding on going discussions between TRCA, City of Markham, York Region, YRRTC, MTO and MNRF regarding the Markham Mobility Hub, City of Markham's MESP process and status and the consideration and timing of modifications to Tributary 5. TRCA staff have also met with Metrolinx staff on Tributary 5 and the proposed parking lot east of Tributary 5. TRCA would be happy to discuss how best to ensure Tributary 5 is mapped and characterized accurately.	
		Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	<p>A comprehensive review of watercourses and wetlands in the vicinity of the study area/rail corridors was conducted as part of the baseline conditions phase of the TPAP and is documented in the Natural Environment Baseline Conditions report (Appendix A1 of the Draft EPR) provided to TRCA in January 2017. As per the Natural Environment Impact Assessment (Appendix A2 of the Draft EPR), footprint impacts including vegetation/tree removals were quantified in wetland areas and Provincially Significant Wetlands. While the vegetation removals within wetland communities may result in net loss of vegetation along the perimeter of the wetlands within the vegetation/tree removal zone, the current ecological function of the wetland areas will be maintained and there are no net adverse effects anticipated. It is anticipated that vegetation losses will be offset as part of the Vegetation Compensation Protocol where required pending further discussions with relevant Conservation Authorities and municipalities.</p> <p>With regards to watercourses, there are no direct impacts to watercourses anticipated to result from OCS installation activities throughout the corridor as all work will be within the existing Metrolinx rail corridor ROW away from the watercourses. In addition, since the bridge modifications will be placed on the existing bridge structures and not in or adjacent to the water, no direct adverse effects to the associated watercourses or fish/fish habitat are anticipated to result from bridge modifications. Should impacts to watercourses be identified at Detailed Design, additional investigations (as required) will be undertaken by the Contractor as appropriate in accordance with applicable legislation to characterize the impacts.</p> <p>Volume 5 of the EPR contains the following commitments related to watercourses:</p> <ul style="list-style-type: none">Although no in-water works are anticipated to be required for bridge modifications over watercourses, if the construction approach changes as a result of detailed design, the Contractor shall abide by the requirements of applicable legislation including but not limited to:<ul style="list-style-type: none">Navigation Protection Act;Fisheries Act (For any areas identified during Detailed Design that require in or near water works, a Self-Assessment under the Fisheries Act will be undertaken by a qualified professional to determine

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		Detailed designs will need to manage the watercourse appropriately. At this stage, the potential for this issue should be recognized with potential areas of concern identified. Woodland and swamp ELC areas should be examined throughout the study area for this occurrence. Examples include: Stouffville Line – Stouffville Reservoir north of Millard St, Barrie Line – North of Dufferin St, Lakeshore East Line – Galloway Rd			<p>appropriate mitigation measures and to confirm whether further assessment and review is required by Fisheries and Oceans Canada);</p> <ul style="list-style-type: none">○ A qualified Fisheries Specialist shall undertake an assessment to determine measures to avoid causing harm to fish and fish habitat, including aquatic species at risk and determine the need for Fisheries and Oceans Canada review;○ All in-water works shall comply with the timing windows identified by MNRF as/if applicable; and○ Compliance with OPSS 180 (Management of Excess Materials) and OPSS 182 (Environmental Protection for Construction in Waterbodies and on Waterbody Banks) during construction. <p>The following commitments specific to the Toronto and Region Conservation Authority (TRCA) will be adhered to post TPAP:</p> <ul style="list-style-type: none">• The TRCA will be engaged, as required, during detailed design through the established Voluntary Project Review process. Through this process, TRCA will complete a comprehensive review of the project and provide an opinion with respect to the interests, objectives, and tests of TRCA’s permit requirements under Section 28 of the Conservation Authorities Act and under Ontario Regulation 166/06 – Toronto and Region Conservation Authority (TRCA): Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses as it relates to the electrification project works. This may include a review as to potential impacts to flooding, erosion, pollution and conservation of land. In this regard, further consultation with TRCA will be undertaken at the detailed design stage, including TRCA’s archaeological staff as required prior to disturbance.
		Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	Acknowledged.
		Flow contributions from proposed sites and external areas to existing ditches/culverts along with potential flooding impacts on adjacent lands must be evaluated. Flow targets, proposed mitigation measures with supporting design details and calculations should be provided at subsequent design stages. No increases in flows or water levels are expected on upstream/downstream properties as a result of the proposed works.	External area contributions and flooding impacts, flow targets, proposed mitigation measures with supporting design details and calculations will be provided at the detailed design stage for sites within the TRCA’s jurisdiction.	Comment to be addressed at the detailed design stage.	
		Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	Acknowledged.
		Typically, the TRCA doesn’t support placement of fill within the floodplain to facilitate	Acknowledged. Where required, a cut and fill analysis according to TRCA’s standards will be	Comment to be addressed at the detailed design stage.	

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		development. However, in cases where it is needed it must be kept to an absolute minimum. A cut and fill analysis according to TRCA’s standards should be performed and provided to TRCA staff for review, where required. It must be demonstrated through the analysis that the volume of fill is balanced by the volume of the corresponding cut at the same incremental stage.	performed at detailed design stage and provided to TRCA for review.		
		Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	Acknowledged.
		Erosion prevention and sediment control (ESC) measures shall be implemented to mitigate erosion and sediment processes during construction. At detailed design, please provide a comprehensive ESC plans indicating how runoff from the different sites will be managed. Details, locations and supporting calculations for each ESC measure should be included in the plans. The ESC plans should be consistent with the Erosion and Sediment Control Guideline for Urban Construction, December 2006.	ESC assessment will be undertaken during detailed design stage including details, locations and supporting calculations in accordance with the Erosion and Sediment Control Guideline for Urban Construction, December 2006.	Comment to be addressed at the detailed design stage.	
		Review Comment (TRCA COMMENTS)	METROLINX RESPONSE (JULY 13)	TRCA COMMENTS (AUGUST 24, 2017)	Acknowledged.
		The available geotechnical information at this stage is preliminary and the detailed design stage has not been commenced. The following presents the review summary at	These specific aspects will be addressed as part of detailed design. See response to Comment #9.	The Proponent has confirmed that the comment will be addressed as part of the detailed design stage. Therefore there is no action required by TRCA at this stage and the TRCA voluntary geotechnical review will be	

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		<p>this stage: Detailed Design/Voluntary Project Review.</p> <p>a) The geotechnical study is required in support of the various elements of the proposed undertaking;</p> <p>b) The facilities, equipment and other developments in proximity to the valley walls and slopes as a result of this work require detailed slope stability and erosion hazard assessments to ensure that it is not vulnerable to slope instability or erosion hazard or exacerbate the slope stability issues. The minimum safety factor of 1.50 should be met for the detailed slope stability;</p> <p>c)The grading in proximity of the slopes and banks should be limited to its maximum extent possible to minimize the potential negative effects to the slope stability. The proposed grading should be supported by geotechnical study and slope stability analysis to ensure that it does not destabilize the slope or potentially triggers hazards;</p> <p>d) The new structures and facilities such as the abutments, wing walls, retaining walls/structures, piers, etc. should be properly designed using geotechnical information and recommendations. For the retaining walls/structures, abutments and wing walls, the global stability should be checked</p>		<p>completed at the detailed design stage upon receiving the further studies and information.</p>	

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		<p>to ensure that a minimum safety factor of 1.50 is met so that these structures cannot be undermined by deep-seated sliding or rotational failure;</p> <p>e) The cuts and fills, which may be required for the proposed undertaking, require the geotechnical design. The stability assessment is also required in support of the cuts and fills to confirm the long-term stability with a minimum safety factor of 1.50;</p> <p>f) If the proposed undertaking requires the construction activities in proximity to the steep slopes and valley walls, the slope stability assessment is required considering the load and vibration effects to confirm that the construction does not exacerbate the slope stability issues;</p> <p>g) It is understood that some segments of the work are in proximity to the slopes including Don Yard and Don Yard Layover. Please ensure the erosion hazards are assessed in details so that there is no risk as a result of the proposed works;</p> <p>h) It is understood that some segments are in proximity to the Lake. Please ensure that the erosion hazards as a result of the proximity to the Lake are assessed</p>			

Agency	Consultation Phase	Comment/Issue Raised by Review Agency			How Comment was Considered by Metrolinx
		<p>in details so that there is no risk as a result of the proposed works;</p> <p>i) The cross-sections should be prepared in adequate intervals through the alignment to show the proposed works with respect to the existing grade. This will enable the TRCA to better understand different elements of the work and the grading and alterations as a result of the work;</p> <p>j) All engineering drawings should be prepared for different undertakings using the pertinent geotechnical recommendations and slope stability assessments and submitted as signed and sealed by Licensed Professional Engineer.</p>			
		<p>Please confirm that the Electrification TPAP is aware of the upcoming Metrolinx work related to the future station design at East Harbour (First Gulf site on east bank of the Don River) as it relates to its proposed hydrosb-station in this area. Given the inappropriate interface between public access to the station and the proposed sub-station, what is the proposed approach for shifting or otherwise relocating this sub-station?</p>			<p>Metrolinx is aware of the developement at the First Gulf (Unilever Site). First Gulf Cooperation has been consulted with during the TPAP and further coordiation with affected stakeholders, including First Gulf Cooperation, will be undertaken as appropriate during detailed design with respect to the Don Yard PS location. In recognition that there are several future land developments proposed in the vicinity of the Don Yard PS, e.g., Unilever Site, Metrolinx’s preferred design will include some form of visual screening at this facility due to the nature of the surrounding scenic environment and its proximity these future/proposed land uses. Please see Draft EPR Volume 5 (Section 1.4.10), Section 3.6.4 of the Draft Land Use & Socio-economic Imapact Assessment Report, and Section 3.6.5 of the Draft Visual impact Assessment Report (previously provided to TRCA in January 2017).</p>
		<p>This is to confirm that the Broadview Eastern Flood Protection Class EA is proceeding and that options for flood protection with a tie-in to the north side of the Metrolinx embankment will be explored, in the area of the proposed hydro substation (as per #1) is required. Please identify the appropriate staff Metrolinx staff that the TRCA EA Project Manager - Violetta Savage will be able to meet with to discuss the integration process required for the embankment tie-off and integration with the proposed substation (if it is still in that location).</p>			<p>Adam Snow Third Party Projects Officer Email: Adam.Snow@metrolinx.com Phone: 416-202-0134</p>
		<p>The Electrification TPAP identified bridge crossings that may have heritage value which need to go through an assessment. That included the bridge crossing over the Don River. Can Metrolinx identify when the recommended heritage assessment of the Don River Bridge crossing will proceed? If so, can TRCA receive a copy of this Heritage Assessment.</p>			<p>A Cultural Heritage Evaluation Report (CHER) was completed for the Don River Bridge and it was determined to be a Non-Heritage property. No further heritage assessment is recommended to be undertaken at the Don River Bridge. See section 3.6.7 of the Cultural Heritage impact assessment report for further information (Appendix C2 of the draft EPR provided to TRCA in January 2017). Please be advised that the CHER for the Don River Bridge was completed as part of a separte Metrolinx project and as such a copy of the report was not included within the Electrification draft EPR provided in January 2017.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
Other Stakeholders			
Fort York	TPAP Phase	<p>We’re going to be doing some trail work along the north side of Fort York – between Bathurst and close to Strachan.</p> <p>I know Metrolinx had identified the need for vegetation removal in the area.</p> <p>Is it too early to get some details on what vegetation removal might entail?</p> <p>I’m wondering whether or not Metrolinx might want to take care of some of the removal now? (2017), or perhaps build some of the removal into a landscape contract tendered by the City (at Metrolinx’s cost).</p> <p>If you could let me know who we might speak with regarding this it would be appreciated.</p>	<p>With regards to the offer you have identified below, Metrolinx feels that it is currently too early to commit to specific tree/vegetation clearing efforts. Some reasons for this are outlined below.</p> <p>Metrolinx is in the process of developing a Tree/Vegetation Compensation Protocol, in consultation with affected municipalities and Conservation Authorities. Metrolinx will continue to work with Fort York on appropriate tree/vegetation compensation.</p> <p>The GO Rail Network Electrification project will be completed as an Alternative Financing Procurement (AFP) process. In this case, the winning contractor will be tasked with developing the design. Therefore, we do not currently know the exact location/amount of tree/vegetation removal.</p> <p>In terms of timing of tree/vegetation removal, this will not occur until construction activities are underway. Construction is anticipated to start in 2021. Therefore, it would be a number of years before infrastructure is built, leading to a duplication of effort as new tree/vegetation growth would need to be removed.</p> <p>We thank you for keeping us informed with regards to any trail work plans. Please continue to provide updates, so that they may be incorporated into our design.</p>
Toronto Transit Commission	TPAP Phase	Please advise when we can anticipate receiving responses to our comments on the draft EPR. We would have expected receiving them before the recently issued Notice of Commencement.	<p>We expect to be providing a response to your questions/comments on the draft EPR by late June.</p> <p>The Project Team will be arranging a meeting with the City of Toronto to discuss the draft EPR and if you could please advise if the TTC would be interested in attending the meeting.</p>
		Whatever bridge modifications are being made to accommodate the additional GO tracks, please ensure that the bridges will allow for operation of north-south bus services, and for future construction of new streetcar routes on streets (in addition to Dufferin, which was already mentioned) such as Parliament, Sherbourne, and Cherry, in consultation with City of Toronto and TTC.	<p>The Metrolinx USRC East Project team is working on setting up a meeting with TTC to address “north-south” and LRT related issues. Please note that no additional tracks are proposed by the Electrification project. Electrification is not expected to have an impact on north-south connectivity however, the Metrolinx USRC East TPAP Team will work with TTC to address these issues as appropriate.</p> <p>To provide additional clarification to our previous response: Please note that the provision/installation of additional GO tracks is not included in the scope of the current GO Rail Network Electrification TPAP undertaking. As outlined in the revised EPR Volume 1: A study was undertaken to determine the feasibility of attaining adequate vertical clearance and incorporating a protective barrier to the bridge to meet the requirements of the Electrification project. “Roadway/bridge raise/replace” and “track lower” scenarios were studied for attaining an adequate vertical clearance. Sufficient information on the existing modular truss superstructures was not available to determine if the existing bridge was structurally adequate for the addition of the protective barrier, or if it is feasible. As expressed by the City of Toronto (bridge owner) during a coordination meeting on August 5, 2016, the existing modular truss superstructure is considered “temporary” and is not capable of accommodating the required protective barrier, or resisting the resulting additional induced forces. Also, the condition of the abutments is poor to the point that the City would not consider reusing/modifying the abutments; the existing bridge should be completely replaced, as is the City’s current expectation, irrespective of Metrolinx’s electrification project. Furthermore, the bridge replacement would be more difficult if performed post-electrification due to the presence of electrified tracks and Metrolinx’s intended more frequent GO Transit headways.</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
			<p>The City of Toronto Dufferin Street Bridge Class Environmental Assessment (July 14, 2011) was reviewed relative to the requirements of the Electrification project. The preferred solution identified through the Class EA included replacing both Dufferin Street bridges over the Gardiner Expressway and rail corridor along the existing alignment. The proposed minimum vertical clearance of 7.01m for the Dufferin St. bridge over the rail corridor presented in the City’s Class EA does not require modification for Electrification. Specifically, the proposed design for the structure included spanning a 6-track section of the GO rail corridor. Therefore the only additional requirements for the new Dufferin St. bridge over the rail corridor to accommodate electrification are the inclusion a protective barrier and potentially flash plates depending on the final proposed structure type e.g., (steel, concrete).</p> <p>Based on the results of the structural assessment undertaken for Electrification, current lack of available information on the existing bridge, and coordination with the City of Toronto, it was determined that it is unfeasible to retain/modify the existing bridge. Consequently, the bridge will require complete replacement.. It was determined feasible to raise the roadway profile and replace the bridge. As such, the preliminary solution is to raise the roadway profile and replace the bridge toward attaining adequate vertical clearance and incorporate a protective barrier in order to meet the requirements of the electrification project. In order to accommodate the vertical clearance of 7.01m proposed in the City of Toronto’s preliminary 2011-2012 design, the tracks will be lowered approximately 200mm in order to attain an overall MVC of 7.2m as required by OCS at this site. This work will consequently require the replacement of the abutting bridge over the Gardiner Expressway just south of the rail corridor.</p> <p>Future TPAP Addendum Work: If required, the detailed assessment of environmental impacts and public/stakeholder consultation related to modifications to Dufferin Ave. Bridge will be carried out as part of an Addendum to the GO Rail Network Electrification TPAP (once approved), based on the preparation of a more detailed level of design. It is noted that if the TPAP Addendum is required, the City of Toronto and TTC will be engaged as appropriate.</p>
Halton Hills Hydro	TPAP Phase	<p>I write to you on behalf of Halton Hills Hydro Inc. We are the local distribution company that distributes power to the Town of Halton Hills (Georgetown, Acton, and rural communities). As you are most likely aware the Kitchener Go line runs through Halton Hills. As such Halton Hills Hydro Inc. is interested in staying informed about the project assessment and would like to receive additional information as it becomes available. You can send the information to myself via email or postal mail.</p> <p>I was looking through some of the documentation online. Can you confirm that the electrification of the Kitchener Go line stops at Bramalea Go station? Are there any long term plans to electrify the rail through Halton Hills?</p>	<p>You have been added to the project contact list so that you may receive updates on our progress to electrify the rail corridors.</p> <p>Electrification of the GO Transit Network requires electrical power to be supplied from Ontario’s electrical system through Hydro One’s existing high voltage grid via new connections to several new Traction Power Substations (TPS) required specifically for Electrification. The locations of these new facilities and associated high voltage connections is being coordinated with Hydro One. The electrified GO rail system needs to be supplied from a 230 kV transmission system to provide the greatest level of both reliability and efficiency.</p> <p>The portion of the Kitchener Corridor, from Bramalea GO Station to west of Georgetown, is currently owned by Canadian National Railway (CN). In June 2016 Metrolinx announced an expansion of GO service to Waterloo Region. An agreement in principle has been reached with CN, part of which is for the planning and technical analysis to build a new freight corridor that will allow CN to shift most of its freight traffic from the section of the Kitchener corridor the company owns to the new corridor. That will free up capacity for more GO service through Brampton to Kitchener. You can view the full details of this announcement here:</p> <p>https://news.ontario.ca/opo/en/2016/06/ontarioexpandinggorailservicetowaterlooregion.html</p> <p>At this time, Metrolinx is only proposing to electrify Metrolinx owned corridors. Further discussions and negotiations with CN are required before electrified service beyond Bramalea is feasible.</p>
IESO	TPAP Phase	<p>Recently there was an announcement regarding the feasibility study of hydrogen powered GO trains. Could you please refer me to someone on this topic? We are interested in the electricity needs of various electrification options.</p>	<p>Mark Ciavarro, our VP of RER Implementation, can assist you with your enquiry</p>

Agency	Consultation Phase	Comment/Issue Raised by Review Agency	How Comment was Considered by Metrolinx
CN Rail	TPAP Phase	<p>Thank you for discussing the GO Rail Network Electrification project with us at the CN-GO coordination meeting yesterday.</p> <p>As discussed, please provide us the draft response letter regarding the attached letter for discussion/comment.</p>	<p>Please find attached the draft EPR response to the CN Letter dated July 6th . I would like to schedule the follow up meeting for the week of August 14th , to resolve several scheduling conflicts.</p>
NAVCanada	TPAP Phase	<p>NAV CANADA’s response letter for our file 13-2885, primarily addressed concerns with the EMI/EMF that would be generated through this electrification project. The EMI/EMF remains the largest concern for NAV CANADA, but we would like to add some additional comments regarding new proposed physical structures and the equipment that will be used to construct the new infrastructure. A new NAV CANADA submission form is required for any new structures, infrastructure, modification to existing or proposed construction equipment that will be used for this electrification project. Physical structures (obstacles)can also impact the Air Navigation Service and require assessment whether permanent or temporary.</p>	<p>Thank you for your additional comments sent via email on August 16, 2017. Specifically, you have noted that “A new NAV CANADA submission form is required for any new structures, infrastructure, modification to existing or proposed construction equipment that will be used for this electrification project”. As per the commitments documented in the GO Rail Network Electrification Environmental Project Report (which will be made available for public review following Notice of Completion), consultation with NavCan and GTAA will continue throughout the Detailed Design phase to ensure that any required agreements, approvals or authorizations (including related forms) are obtained prior to construction/project implementation. We request that NavCan please provide a copy of the form referred to in your August 16th email for our information/reference.</p>

1.3.4.7 Consultation Efforts Regarding Municipal Heritage

The following section describes the consultation undertaken with regards to cultural heritage (during both the Pre-Planning and TPAP Phases). As part of completing the Cultural Heritage Screening Report (CHSR), federal, provincial and municipal agencies were consulted with to obtain background information on built heritage resources and cultural heritage landscapes within the project study area. Consultation was undertaken with agencies including Parks Canada, Ontario Heritage Trust, MTCS, and relevant municipalities. Further more detailed information on the consultation efforts undertaken as part of preparing the Cultural Heritage Screening Report can be found in **Appendix C1**.

Consultation was further undertaken to complete the Cultural Heritage Evaluation Reports (CHERs) and subsequent Heritage Impact Assessments (HIA). Consultation efforts undertaken for each of the CHERs and HIAs completed as part of the TPAP is described below. Further information can be found in the CHER and HIA reports contained within **Appendix M**.

Table 1-67 summarizes the various stakeholder meetings that involved the provision of Cultural Heritage and Archaeological updates and information to stakeholders during the TPAP phase.

Table 1-67: Stakeholder Meetings Cultural Heritage & Archaeology Updates

Municipality	Meeting Date	Updates on Heritage Studies Provided at Meeting
City of Markham	August 1 st 2017	<p>Cultural Heritage</p> <ul style="list-style-type: none"> Results of CHER for Markham GO Station HIA to be completed during detailed design <p>Archaeology</p> <ul style="list-style-type: none"> No impacts
Town of Innisfil	August 2 nd 2017	<p>Cultural Heritage</p> <ul style="list-style-type: none"> No impacts <p>Archaeology</p> <ul style="list-style-type: none"> Results of Stage 1 AA for Gilford PS Stage 2 AA in progress
City of Barrie	August 2 nd 2017	<p>Cultural Heritage</p> <ul style="list-style-type: none"> No impacts <p>Archaeology</p> <ul style="list-style-type: none"> Results of Stage 1 AAs No further assessment required for Allandale TPS No further assessment required for Barrie Collingwood 2x25 kV feeder route Stage 2 AAs recommended for Allandale Tap
City of Vaughan	August 4 th 2017	<p>Cultural Heritage</p> <ul style="list-style-type: none"> Results of CHER for Maple GO Station HIA to be completed during detailed design <p>Archaeology</p> <ul style="list-style-type: none"> Results of Stage 1 AA for Maple PS No further assessment required for Maple PS
Parks Canada	August 15 th 2017	<p>Cultural Heritage</p> <ul style="list-style-type: none"> Union Station HIA
Town of Aurora	n/a	<p>Cultural Heritage</p> <ul style="list-style-type: none"> Aurora GO Station HIA HIA to be completed during the TPAP (undertaken by Taylor Hazell Architects) Contacted to seek relevant information as part of preparing the Aurora GO Station HIA

8000 Dixie – Bramalea Paralleling Station CHER

Consultation was undertaken with the Ontario Heritage Trust, MTCS, and heritage staff at the City of Brampton regarding the Bramalea PS property as part of the CHSR (**Appendix C1**). Given that the property at 8000 Dixie Road in Brampton is identified as retaining municipal heritage recognition, additional consultation with heritage staff was undertaken as part of the CHER.

During writing of the CHER, the Heritage Coordinator at the City of Brampton was consulted with on August 8 and 9, 2016, via email. She confirmed that the property is listed on the Municipal Register of Cultural Heritage Resources and provided some information they had on file for this property. Further information on the responses received can be found in the Bramalea Paralleling Station CHER contained within **Appendix M**.

In addition, community stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Bramalea PS property. See **Figure 11** for a sample questionnaire.

The Brampton Historical Society was contacted August 5, 2016, no response was received at the time of preparing the CHER.

Figure 11: Sample CHER Questionnaire

FINAL CULTURAL HERITAGE EVALUATION REPORT:
ISLINGTON AVENUE BRIDGE



APPENDIX A: Cultural Heritage Evaluation Report Sample Questionnaire

Response by:

Name of Organization:

Date:

1. Have you collected any historical information on the property? If yes, please provide a short description of this collection:

2. Is there any local interest in the history of the property relating to:

- a. Historical or Associative Value
- b. Design or Physical Value
- c. Contextual Value
- d. Other

Please provide additional information regarding your selections above:

3. Do you know whether the lands where the property is located may be valued by the community, including First Nations? If yes, please provide a brief description:

4. Are there any other additional comments that you think are relevant?

Prepared By: ASI

09-08-2017

46 | Page

Credit River Bridge CHER & HIA

Consultation was undertaken with the Ontario Heritage Trust, MTCS, and heritage staff at the City of Mississauga regarding the Credit River Bridge as part of the CHSR (**Appendix C1**). Given that the Credit River Bridge is identified as retaining municipal heritage recognition, additional consultation was undertaken as part of the CHER. Consultation was undertaken with the Senior Heritage Coordinator at the City of Mississauga on June 9, 2016, via email. City of Mississauga confirmed that the Credit River Bridge is listed on the City's Cultural Landscape Inventory (2005), and that there was no additional information about the bridge on file at the municipality.

In addition, stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Credit River Bridge, see **Figure 11** for a sample questionnaire. See **Table 1-68**

for a list of organizations contacted and a description of information received. At the time of writing the CHER, responses were received from the Mississauga Heritage Foundation and the Port Credit Village Project. These responses indicate that there is an interest in the cultural heritage value of the bridge, and in the conservation of the bridge. Further information on the responses received can be found in the Credit River CHER and HIA report contained within **Appendix M**.

Table 1-68: Stakeholder Consultation – Credit River Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Port Credit BIA	June 3, 2016	No response received to date
Credit Reserve Association	June 3, 2016	No response received to date
Mississauga Heritage Foundation	June 3, 2016	Response received June 14 and 24 2016 (email and questionnaire). Provided historic photographs of the bridge and a history of railways in Port Credit, and indicated that the bridge has cultural heritage value.
Mississauga South Historical Society	June 3, 2016	No response received to date
Town of Port Credit Association	June 3, 2016	No response received to date
Port Credit Village Residents Association	June 3, 2016	No response received to date
Viva Port Credit	June 3, 2016	No response received to date
Port Credit Village Project	June 3, 2016	Response received June 3, 2016.
Credit Valley Conservation Authority	June 3, 2016	No response received to date

On September 7, 2017 Metrolinx provided City of Mississauga staff with an advanced copy of the final Credit River Bridge HIA for their information.

Drury Lane Pedestrian Bridge CHER

Consultation was undertaken with Heritage Burlington via email in November 2015 as part of the CHSR (**Appendix C1**). Heritage Burlington, the Burlington Historical Society, and the City of Burlington Capital Works were also contacted during writing of the CHER to collect any information relating to the Drury Lane Pedestrian Bridge, including a request for the original bridge drawings. No response was received at

the time of writing. See **Table 1-69** for a list of organizations contacted and a description of information received.

Table 1-69: Stakeholder Consultation – Drury Lane Pedestrian Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Heritage Burlington	November 2015	No information received at the time of report writing.
Burlington Historical Society	3 June 2016	No information received at the time of report writing.
City of Burlington Capital Works	15 June 2016	No information received at the time of report writing.

Dundas Street West Bridge CHER

Consultation with the City of Toronto was carried out as part of the CHSR (**Appendix C1**). City of Toronto Heritage Preservation Services were contacted by email on November 3, 13, and 27 2015, December 8, 2015, and February 18, 2016 to inquire about the heritage status of the Dundas Street West Bridge. No response had been received at the time of writing.

In addition, during writing of the CHER, a number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Dundas Street West Bridge. See **Figure 11** for a sample questionnaire. **Table 1-70** provides a list of organizations contacted and a description of information received. At the time of writing the CHER, a response was received from the Sunnyside Historical Association about the Dundas Street West Bridge. No concerns regarding the heritage value or local community interest were identified. Further information on the responses received can be found in the Dundas Street West Bridge CHER contained within **Appendix M**.

Table 1-70: Stakeholder Consultation – Dundas Street West Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Heritage Toronto	3 June 2016	No information received at the time of report writing.
Toronto Railway Historical Association	3 June 2016	No information received at the time of report writing.
Toronto Historical Association	3 June 2016	No information received at the time of report writing.
Sunnyside Historical Association	3 June 2016, response received 3 June 2016	Highlighted historical photos posted to the group's website. No heritage concerns directly relating to the Dundas Street West Bridge.

Gardiner Expressway Overhead Bridges CHER

Consultation with the Ontario Heritage Trust, MTCS, and the City of Toronto regarding the subject property took place as part of the CHSR (**Appendix C1**).

An additional email was sent to City of Toronto Heritage Preservation Services on August 19, 2016 to confirm that the subject bridge is not currently recognized as a heritage structure by the City of Toronto. No reply was received at the time of writing.

In addition, during writing of the CHER, a number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Gardiner Expressway Overhead in the City of Toronto. See **Figure 11** for a sample questionnaire and **Table 1-71** for a list of organizations contacted and a description of information received. At the time of writing the CHER, no responses were received from those contacted.

Table 1-71: Stakeholder Consultation – Gardiner Expressway Overhead CHER

Organization	Date(s) of Communications	Description of Information Received
Toronto Railway Historical Association	3 June, 2016	No information received at the time of report writing
Heritage Toronto	3 June, 2016	No information received at the time of report writing
Toronto Historical Association	3 June, 2016	No information received at the time of report writing

Holland River Bridge CHER

Consultation with the Town of Bradford West Gwillimbury was carried out as part of the CHSR (**Appendix C1**). Consultation was undertaken with the Town of Bradford West Gwillimbury by email on November 3, 4, 11, 13, 27 and December 8, 2015 to inquire about the heritage status of the Holland River Bridge. It was confirmed that the Holland River Bridge is not a designated or listed heritage property.

In addition, during writing of the CHER, stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Holland River Bridge. See **Figure 11** for a sample questionnaire and **Table 1-72** for a list of organizations contacted and a description of information received. At the time of writing the CHER, responses were received from the Lake Simcoe Region Conservation Authority. No concerns regarding the heritage value or local community interest were identified. Further information on the responses received can be found in the Holland River Bridge CHER contained within **Appendix M**.

Table 1-72 Stakeholder Consultation – Holland River Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Lake Simcoe Region Conservation Authority	3 June 2016, response received 6 June 2016	No information received regarding heritage value of the bridge Noted concerns regarding design and safety of the bridge during flooding events

Innes Avenue Pedestrian Bridge CHER

The City of Toronto Heritage Preservation Services was contacted by email to inquire about the heritage status of the Innes Avenue Pedestrian Bridge as part of the CHSR (**Appendix C1**). The City of Toronto was contacted in January 2016.

During writing of the CHER, consultation was undertaken with Heritage Toronto, the Toronto Railway Historical Association, and the Toronto Historical Association to collect any information relating to the Innes Avenue Pedestrian Bridge (**Table 1-73**). No responses had been received at the time of writing.

Table 1-73: Stakeholder Consultation – Innes Avenue Pedestrian Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Toronto Railway Historical Association	3 June 2016	No information received at the time of report writing.
Heritage Toronto	3 June 2016	No information received at the time of report writing.
Toronto Historical Association	3 June 2016	No information received at the time of report writing.

Islington Avenue Bridge CHER

Consultation with the Ontario Heritage Trust, MTCS, and heritage staff at the City of Toronto regarding the Islington Avenue Bridge took place as part of the CHSR (**Appendix C1**).

In addition, during writing of the CHER, a number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Islington Avenue Bridge in Toronto. See **Figure 11** for a sample questionnaire and **Table 1-74** for a list of organizations contacted and a description of information received. At the time of writing the CHER, no responses were received.

Table 1-74: Stakeholder Consultation – Islington Avenue Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Heritage Toronto	August 5, 2016	No response received to date
Toronto Railway Historical Association	August 5, 2016	No response received to date
Toronto Historical Association	August 5, 2016	No response received to date

Joshua Creek, Sixteen Mile Creek and Bronte Creek Bridges CHER

Consultation with the Ontario Heritage Trust, MTCS, and heritage staff at the Town of Oakville regarding the subject properties took place as part of the CHSR (**Appendix C1**). Given that the Sixteen Mile Creek Bridge in Oakville was identified as retaining municipal heritage recognition, additional consultation with heritage staff was undertaken as part of the CHER.

During writing of the CHER the Heritage Planner at the Town of Oakville was consulted on June 9, 2016, via email and telephone. It was confirmed that Sixteen Mile Creek Bridge is on the municipal heritage inventory, and that there is no additional information about the bridge on file at the municipality.

In addition, during writing of the CHER, a number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the three Lakeshore West rail corridor bridges. See **Figure 11** for a sample questionnaire and **Table 1-75** for a list of organizations contacted and a description of information received. At the time of writing, responses were received from the Oakville Historical Society as well as the Bronte Historical Society. No concerns regarding the heritage value or local community interest were identified. Further information on the responses received can be found in the CHER contained within **Appendix M**.

Table 1-75: Stakeholder Consultation – Joshua Creek, Sixteen Mile Creek and Bronte Creek Bridges CHER

Organization	Date(s) of Communications	Description of Information Received
Oakville Historical Society	June 3, 2016	Response received June 19 from President of the Oakville Historical Society. They do not have any historical photos or information on the three railway bridges in Oakville. Suggested that the book <i>Steam at Oakville</i> be reviewed.
Bronte Historical Society	June 3, 2016	Response received June 9 from Bronte Historical Society Volunteer.
Conservation Halton	June 3, 2016	No response received to date
Credit Valley Conservation Authority	June 3, 2016	No response received to date

CHER Portland Street Pedestrian Bridge

The City of Toronto Heritage Preservation Services was contacted by email January 2016 to inquire about the heritage status of the Portland Street Pedestrian Bridge as part of the CHSR (**Appendix C1**).

In addition, during writing of the CHER, Heritage Toronto and the Toronto Railway Historical Association were contacted to collect any information relating to the Sunnyside, Innes, and Portland Street Pedestrian Bridges (**Table 1-76**). No response was received at the time of writing.

Table 1-76: Stakeholder Consultation – Portland Street Pedestrian Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Toronto Railway Historical Association	3 June 2016	No information received at the time of report writing.
Heritage Toronto	3 June 2016	No information received at the time of report writing.

CHER Sunnyside Pedestrian Bridge

The City of Toronto Heritage Preservation Services was contacted by email in January 2016 to inquire about the heritage status of the Sunnyside Pedestrian Bridge as part of the CHSR (**Appendix C1**).

During writing of the CHER, Heritage Toronto, Sunnyside Historical Society, the Toronto Historical Association, and the Toronto Railway Historical Association were contacted and asked to complete a questionnaire to collect any information relating to the Sunnyside Pedestrian Bridge (**Table 1-77**). See **Figure 11** for a sample questionnaire. Only a response from the Sunnyside Historical Society had been received at the time of writing. Further information on the responses received can be found in the Sunnyside Pedestrian Bridge CHER contained within **Appendix M**.

Table 1-77: Stakeholder Consultation – Portland Street Pedestrian Bridge CHER

Organization	Date(s) of Communications	Description of Information Received
Sunnyside Historical Society	3 June 2016	Comments received on 3 June 2016 in reference to the Heritage Recognition and Discussion of Cultural Heritage Value.
Toronto Railway Historical Association	3 June 2016	No information received at the time of report writing.
Heritage Toronto	3 June 2016	No information received at the time of report writing.
Toronto Historical Association	3 June 2016	No information received at the time of report writing.

CHER Hillside Topiary Signs

Consultation with the Ontario Heritage Trust, MTCS, and heritage staff at the City of Toronto regarding the Hillside Topiary Signs took place as part of the CHSR (**Appendix C1**).

In addition, during writing of the CHER, stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Hillside Topiary Signs, see **Figure 11** for a sample questionnaire. During writing of the CHER, Heritage Toronto, Sunnyside Historical Society, Heritage Preservation Services, the Toronto Historical Association, and the Toronto Railway Historical Association were contacted (**Table 1-78**). Only a response from the Sunnyside Historical Society had been received at the time of writing. No concerns regarding the heritage value or local community interest were identified. Further information on the responses received can be found in the Hillside Topiary Signs CHER contained within **Appendix M**.

Table 1-78: Stakeholder Consultation – Hillside Topiary Signs CHER

Organization	Date(s) of Communications	Description of Information Received
Sunnyside Historical Society	5 August 2016	Indicated that the Sunnyside Historical Society does not have any historic research on the Topiary signs, and does not consider the signs to have Contextual, Design or Historical value. States that advertising is not heritage.
Toronto Railway Historical Association	5 August 2016	No information received at the time of report writing.
Heritage Toronto	5 August 2016	No information received at the time of report writing.
Toronto Historical Association	5 August 2016	No information received at the time of report writing.

CHER Willowbrook Maintenance Facility

Consultation with the Ontario Heritage Trust, MTCS, and heritage staff at the City of Toronto regarding the Willowbrook Maintenance Facility took place as part of the CHSR (**Appendix C1**).

In addition, during writing of the CHER, a number of stakeholder groups were contacted and asked to complete a questionnaire to collect any information relating to the Willowbrook Maintenance Facility. See **Figure 11** for a sample questionnaire and **Table 1-79** for a list of organizations contacted and a description of information received. At the time of writing, no responses were received from any of the organizations contacted.

Table 1-79: Stakeholder Consultation – Willowbrook Maintenance Facility CHER

Organization	Date(s) of Communications	Description of Information Received
Heritage Toronto	August 5, 2016	No response received to date
Toronto Railway Historical Association	August 5, 2016	No response received to date
Toronto Historical Association	August 5, 2016	No response received to date

Aurora GO Station HIA

As part of the Cultural Heritage Evaluation which was the basis for the Metrolinx Heritage Committee's 2014 decision to identify the Aurora GO Station as a Metrolinx Heritage Property of Provincial Significance, consultation was undertaken with Heritage Planning staff at the Town of Aurora, the Aurora Heritage Advisory Committee and the Aurora Historical Society.

During writing of the Aurora GO Station HIA, consultation was undertaken with the Town of Aurora and the Aurora Heritage Advisory Committee. The Town of Aurora provided comments to be taken into consideration on May 8, 2017. Further information on the comments received can be found in the Aurora GO Station HIA contained within **Appendix M**.

Union Station Trainshed HIA

Meetings were held with Parks Canada and City of Toronto to discuss the HIA and proposed works at the Union Station Trainshed during the TPAP. For information on meetings held regarding the heritage attributes of the Union Station Trainshed and the HIA see sections 1.2.5.1.2, 1.2.5.3.3, 1.3.4.1.1, and 1.3.4.3.4.

The Union Station Trainshed HIA was included as part of the Draft EPR submission to review agencies in January 2017. Comments received from MTCS (**Table 1-22**) and Parks Canada (**Table 1-17**) were incorporated into the final HIA.

Draft EPR Circulation

The following reports were included as part of the Draft EPR submission to review agencies in January 2017:

- Union Station Trainshed HIA;
- Willowbrook Maintenance Facility CHER;
- Hillside Topiary Signs CHER;
- Sunnyside Pedestrian Bridge CHER;

- Joshua Creek, Sixteen Mile Creek and Bronte Creek Bridges CHER;
- Gardiner Expressway Overhead Bridges CHER;
- Drury Lane Pedestrian Bridge CHER;
- Credit River Bridge CHER;
- Innes Avenue Pedestrian Bridge CHER; and,
- Holland River Bridge CHER.

Public Meetings – Cultural Heritage

In addition to the consultation undertaken as part of preparing the Cultural Heritage Screening Report, CHERs and HIAs, an overview of the cultural heritage studies being undertaken and potential effects to heritage bridges/properties were presented at the three rounds of public meetings. Feedback on the cultural heritage bridges/properties was specifically requested during the third round of public meetings via the feedback forms. See **Appendix L-4 to L-6** for further detail on the comments received and to view the public meeting materials.

1.3.5 Elected Officials

During the TPAP Phase consultation, Metrolinx received correspondence from a number of elected officials regarding electrification. The comments received from elected officials were related to various components of the electrification project including matters of consultation, project scope, infrastructure siting, and noise and vibration mitigation as summarized below.

1.3.5.1 Consultation with Elected Officials

1.3.5.1.1 MP, Leona Alleslev (Aurora-Oak Ridges-Richmond Hill)

An email received on June 14, 2017 on behalf of Member of Parliament (MP) Leona Alleslev stated that MP Alleslev wished to schedule a meeting with Metrolinx staff to discuss the third round of public meetings. Metrolinx staff spoke to a staff member from MP Leona Alleslev's office on June 16th, 2017.

1.3.5.1.2 Burlington Councillor, Jack Dennison

An email was received on July 4, 2017 requesting on behalf of a resident information on why a public meeting was not held in the City of Burlington during the third round of public meetings. Councillor Dennison and the resident were advised that the first round of public meetings held in February/March 2016 included meetings in both Oakville and Burlington, and during the second round of public consultation and updated on electrification was shared at the March 30th public meeting in Oakville to discuss the Burloak Drive grade separation. Councillor Dennison and the resident were advised that all

meeting materials are posted at gotransit.com/electrification and that the Project team can be reached at Electrification@metrolinx.com.

1.3.5.1.3 MP, Julie Dzerowicz (Davenport)

A letter dated July 7, 2017 was received from MP Dzerowicz notifying that she was unable to attend the public meetings held June/July 2017, however wanted to emphasize that electrification of the Barrie corridor is of great importance to the Davenport riding. MP Dzerowicz noted that there is a clear preference from residents in Davenport in support of electrification, and asked that Metrolinx provide information on any new power stations required to support Electrification within the riding. MP Dzerowicz was advised that there are no electrification facilities such as traction power facilities located in the Davenport riding and that all public meeting materials are posted at gotransit.com/electrification. An offer to meet was extended.

1.3.5.2 Community Meetings

During the TPAP-Planning Phase consultation a number of community meetings were hosted by elected officials to discuss various Metrolinx projects within their respective jurisdictions. Metrolinx staff were in attendance at several of the meetings to discuss electrification.

1.3.5.2.1 Meeting – July 13, 2017

A community meeting was hosted on July 13, 2017 by Member of Provincial Parliament (MPP) Arthur Potts. Approximately 55 residents were in attendance. Also in attendance was Councillor Mary Margaret McMahon and a representative for Member of Parliament (MP) Nathaniel Erskine-Smith. The meeting was hosted to discuss both Electrification and Lakeshore East Rail Corridor Expansion project works. The meeting proceeded with the elected officials and residents posing questions to Metrolinx staff regarding Electrification.

Key themes of resident interest and/or concern relating to Electrification included construction dates, noise mitigation during construction and operation, visual impacts from Electrification infrastructure and proposed mitigation, and impact to property value. Of high importance was discussion on the location of proposed noise mitigation, specifically with regards to noise walls.

1.3.5.2.2 Meeting – August 16, 2017

A USRC East Enhancements TPAP community meeting was hosted on August 16, 2017 for the Caroline Co-op community group. Over 40 members of the public including members of the Caroline Co-op board were in attendance. The Electrification TPAP was discussed at a high level. Key themes of interest and/or concern relating to Electrification included vegetation clearance requirements, noise impacts, reasons for pursuing electrification, health concerns (EMI/EMF) and visual impacts.

1.4 Notice of Completion

In accordance with Section 11 of *O. Reg. 231/08*, a Notice of Completion was issued October 11, 2017 upon conclusion of the 120-day TPAP period. The Notice provides the public, Indigenous Communities, review agencies and other stakeholders with information about the project, next steps, how to access the Environmental Project Report (EPR) (posted online to the Metrolinx project website and at various viewing locations (refer to **Table 1-81** below) throughout the study area for review), and how comments may be formally submitted on the EPR. The Notice of Completion was published on two separate days in the following newspapers with circulation in the project study area as summarized in **Table 1-80**.

The Notice of Completion includes the following information (a copy of the Notice can be found in **Appendix L-2**):

- Information as to where and how members of the public may examine the Environmental Project Report and obtain copies;
- A description of the objection process, which includes:
 - A statement that there are circumstances which the Minister has authority to require further consideration of the transit project, or impose conditions on it, if he or she is of the opinion that:
 - a) The transit project may have a negative impact on a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest; or
 - b) The transit project may have a negative impact on a constitutionally protected Aboriginal or treaty right.
 - A statement that, before exercising the authority referred to above, the Minister is required to consider any written objections to the transit project that he or she receives within 30 days after the Notice of Completion of the Environmental Project Report is first published.

Table 1-80: Notice of Completion Newspaper Advertisements

Newspaper Publication	Dates Published
Oshawa Durham Central	Monday October 16, 2017 Monday October 23, 2017
Oshawa Express	Wednesday October 11, 2017 Wednesday October 18, 2017
Whitby (Oshawa) This Week	Thursday October 12, 2017 Thursday October 19, 2017
Ajax/Pickering News Advertiser	Thursday October 12, 2017 Thursday October 19, 2017
Stouffville Sun Tribune	Thursday October 12, 2017 Thursday October 19, 2017
Markham Economist and Sun	Thursday October 12, 2017

Newspaper Publication	Dates Published
	Thursday October 19, 2017
Barrie Advance	Thursday October 12, 2017 Thursday October 19, 2017
Barrie Examiner	Thursday October 12, 2017 Thursday October 19, 2017
Innisfil Journal	Thursday October 12, 2017 Thursday October 19, 2017
Innisfil Examiner	Friday October 13, 2017 Friday October 20, 2017
Bradford West Gwillimbury Times	Thursday October 12, 2017 Thursday October 19, 2017
Bradford West Gwillimbury Topic	Thursday October 12, 2017 Thursday October 19, 2017
East Gwillimbury Express/Newmarket Era/Aurora Banner	Thursday October 12, 2017 Thursday October 19, 2017
The Auroran	Thursday October 12, 2017 Thursday October 19, 2017
Markham Economist and Sun	Thursday October 12, 2017 Thursday October 19, 2017
King Weekly Sentinel	Thursday October 12, 2017 Thursday October 19, 2017
King Connection	Thursday October 12, 2017 Thursday October 19, 2017
Vaughan Citizen	Thursday October 12, 2017 Thursday October 19, 2017
Thornhill/Richmond Hill Liberal	Thursday October 12, 2017 Thursday October 19, 2017
Brampton Guardian	Thursday October 12, 2017 Thursday October 19, 2017
Mississauga News	Thursday October 12, 2017 Thursday October 19, 2017
Oakville Beaver	Thursday October 12, 2017 Thursday October 19, 2017
Scarborough Mirror	Thursday October 12, 2017 Thursday October 19, 2017
Etobicoke Guardian (Mimico)	Thursday October 12, 2017 Thursday October 19, 2017
City Centre Mirror (includes Annex)	Thursday October 12, 2017

Newspaper Publication	Dates Published
	Thursday October 19, 2017
King Weekly Sentinel	Thursday October 12, 2017 Thursday October 19, 2017
East York/Riverdale/Beaches Mirror	Thursday October 12, 2017 Thursday October 19, 2017
North York Mirror	Thursday October 12, 2017 Thursday October 19, 2017
York Guardian	Thursday October 12, 2017 Thursday October 19, 2017
Burlington Post	Friday October 13, 2017 Friday October 20, 2017
Toronto Star and Toronto Star online	Wednesday October 11, 2017 Wednesday October 18, 2017
French Publications	
L'Express	Tuesday October 10, 2017 Tuesday October 17, 2017
Le Metropolitain	Wednesday October 11, 2017 Wednesday October 18, 2017

The Notice of Completion was provided to the following stakeholders:

- Director, Environmental Assessment and Approvals Branch (EAAB), Ministry of Environment and Climate Change (MOECC);
- Director, Central Region, MOECC;
- Director, West Central Region, MOECC;
- The following Indigenous communities (it is noted that hard copies of the Notice of Commencement were also sent via courier/Canada Post to all Indigenous communities):
 - Alderville First Nation;
 - Beausoleil First Nation;
 - Chippewas of Georgina Island;
 - Chippewas of Rama First Nation;
 - Curve Lake First Nation;
 - Hiawatha First Nation;
 - Huron-Wendat Nation;
 - Kawartha Nishnawbe First Nation;
 - Mississaugas of the New Credit First Nation;
 - Mississaugas of Scugog Island First Nation;
 - Moose Deer Point First Nation;

- Six Nations of the Grand River;
- Wahta Mohawks;
- Anishinabek Nation Union of Ontario Indians;
- Association of Iroquois and Allied Indians;
- Métis Nation of Ontario,
- Williams Treaties First Nations (WTFN); and,
- Haudenosaunee Confederacy Chiefs Council.
- Every individual who provided a written request for a copy; and
- All members of the public/review agencies/other stakeholders with email/mailing addresses included on the Project Contact List.

1.5 30-Day Public Review Period

Upon issuing the Notice of Completion, the Final Environmental Project Report (EPR) and Supporting Appendices (environmental and technical studies) were made available for 30 days for review by the Public (including property owners), Indigenous Communities, Review Agencies, and other Stakeholders.

Specifically, the Environmental Project Report (EPR) was posted online to the Metrolinx project website as follows:

- <http://www.gotransit.com/electrification/en/>

In addition, electronic copies of the entire Final EPR and Appendices have been made available at various viewing locations throughout the study area as follows:

Table 1-81: Final EPR & Appendices Viewing Locations

Metrolinx Head Office 97 Front Street – 2nd Floor Reception Toronto, ON M5J 1E6 tel: 416-874-5900 Monday to Friday: 8:30 a.m. - 4:30 p.m.	Ministry of the Environment and Climate Change Central Region Office Metro Toronto District Office 5775 Yonge Street, 8th Floor North York, ON M2M 4J1 tel: 416-326-6700 Monday to Friday: 8:30 a.m. - 5:00 p.m.	Ministry of the Environment and Climate Change Environmental Approvals, Access and Service Integration Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON M4V 1P4 tel: 416-314-8001 / toll-free: 1-800-461-6290 Monday to Friday: 8:30 a.m. - 5:00 p.m.
Newmarket Public Library 438 Park Avenue Newmarket, ON L3Y 1W1 tel: 905-953-5110 Tuesday to Thursday: 9:30 a.m. - 9:00 p.m. Friday & Saturday: 9:30 a.m. - 5:00 p.m. Sunday: 1:00 p.m. - 5:00 p.m.	Downtown Barrie Public Library 60 Worsley Street Barrie, ON L4M 1L6 tel: 705-728-1010 Monday to Thursday: 9:30 a.m. - 9:00 p.m. Friday & Saturday: 9:30 a.m. - 5:00 p.m. Sunday: 12:00 p.m. - 5:00 p.m.	Pickering Library Central Branch 1 The Esplanade S. Pickering, ON L1V 6K7 tel: 905-831-6265 Monday to Friday: 9:30 a.m. - 9:00 p.m. Saturday: 9:00 a.m. - 5:00 p.m. Sunday: 1:00 p.m. - 5:00 p.m.

Brampton Library Chinguacousy Branch 150 Central Park Drive Brampton, ON L6T 2T9 tel: 905-793-4636 Monday to Thursday: 10:00 a.m. - 9:00 p.m. Friday: 10:00 a.m. - 6:00 p.m. Saturday: 10:00 a.m. - 5:00 p.m. Sunday: 1:00 p.m. - 5:00 p.m.	Scarborough Civic Centre Library 156 Borough Drive Scarborough, ON M1P 4N7 tel: 416-396-3599 Monday to Thursday: 9:00 a.m. – 8:30 p.m. Friday & Saturday: 9:00 a.m. - 5:00 p.m. Sunday: 1:30 p.m. - 5:00 p.m.	Mimico Centennial Library 47 Station Road Etobicoke, ON M8V 2R1 tel: 416-394-5330 Tuesday & Wednesday: 12:30 p.m. – 8:30 p.m. Thursday & Friday: 10:00 a.m. - 6:00 p.m. Saturday: 9:00 a.m. - 5:00 p.m.
Oakville Public Library – Central Branch 120 Navy Street Oakville, ON L6J 2Z4 tel: 905-815-2042 Monday to Thursday: 10:00 a.m. - 8:00 p.m. Friday & Saturday: 10:00 a.m. - 5:00 p.m. Sunday: 1:00 p.m. - 5:00 p.m.	Markham Public Library 3990 Major Mackenzie Drive East Markham, ON L6C 1P8 tel: 905-513-7977 Monday to Thursday: 9:30 a.m. - 9:00 p.m. Friday: 9:30 a.m. - 5:00 p.m. Saturday: 9:00 a.m. - 5:00 p.m. Sunday: 1:00 p.m. - 5:00 p.m.	Whitchurch-Stouffville Public Library 175 Mostar Street Whitchurch-Stouffville, ON L4A 0Y2 tel: 905-642-7323 Monday to Thursday: 10:00 a.m. – 8:30 p.m. Friday: 10:00 a.m. - 6:00 p.m. Saturday: 10:00 a.m. - 5:00 p.m. Sunday: 12:00 p.m. - 5:00 p.m.

During the 30-day review period, if there are concerns pertaining to the potential for a negative impact on a matter of Provincial importance¹⁸ that relates to the natural environment or has cultural value or interest, or on a constitutionally protected Aboriginal or treaty right, an objection may be submitted to the Minister of the Environment and Climate Change (the Minister) as outlined in the Notice of Completion.

1.6 35 Day Minister Review Period

Following the 30-day public review period, the Minister has 35 days within which to issue one of three notices:

- Proceed with the Project in accordance with the EPR; or
- Proceed with the Project in accordance with the EPR subject to conditions; or
- Require the proponent to conduct further work and submit a revised EPR.

¹⁸ As per *O. Reg. 231/08*.