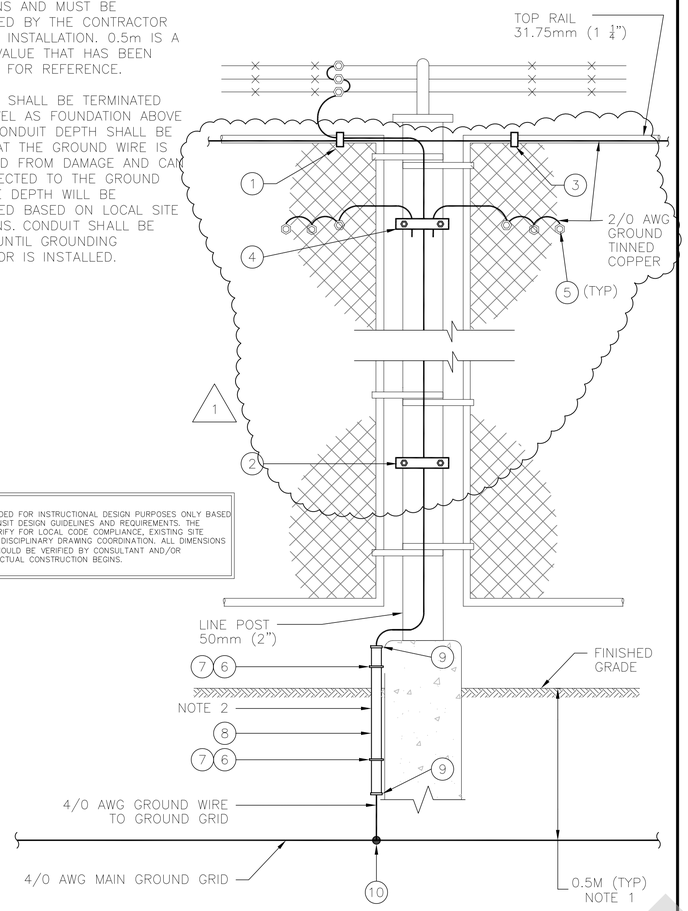
NOTES:

1. THE DEPTH OF THE GROUND GRID WILL DEPEND ON LOCAL SITE CONDITIONS AND MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO INSTALLATION. 0.5m IS A TYPICAL VALUE THAT HAS BEEN PROVIDED FOR REFERENCE.
2. CONDUITS SHALL BE TERMINATED SAME LEVEL AS FOUNDATION ABOVE GRADE. CONDUIT DEPTH SHALL BE SUCH THAT THE GROUND WIRE IS PROTECTED FROM DAMAGE AND CAN BE CONNECTED TO THE GROUND GRID. THE DEPTH WILL BE DETERMINED BASED ON LOCAL SITE CONDITIONS. CONDUIT SHALL BE CAPPED UNTIL GROUNDING CONDUCTOR IS INSTALLED.



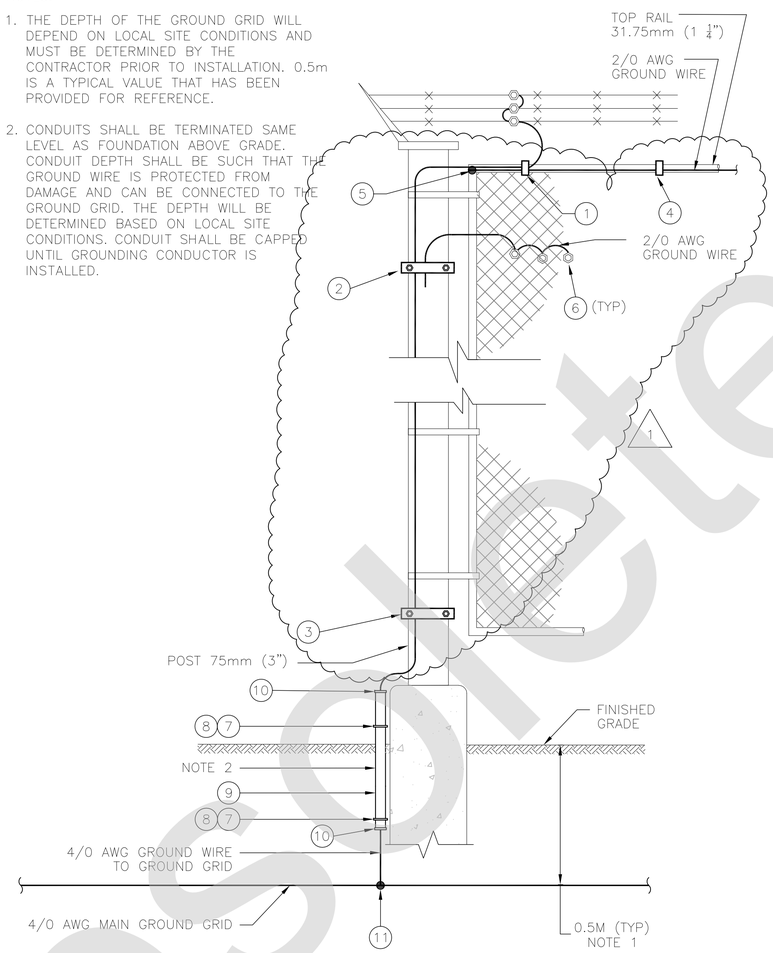
NOTE:
THIS DRAWING IS PROVIDED FOR INSTRUCTIONAL DESIGN PURPOSES ONLY BASED ON METROLINX GO TRANSIT DESIGN GUIDELINES AND REQUIREMENTS. THE CONSULTANT SHALL VERIFY FOR LOCAL CODE COMPLIANCE, EXISTING SITE CONDITIONS AND INTER DISCIPLINARY DRAWING COORDINATION. ALL DIMENSIONS AND SPECIFICATIONS SHOULD BE VERIFIED BY CONSULTANT AND/OR CONTRACTOR BEFORE ACTUAL CONSTRUCTION BEGINS.

DETAIL 1 – GROUNDING OF FENCE LINE POST

ITEM	QTY	1 MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	COOPER CONNECTOR, CABLE TO PIPE FOR 31.25 (1 1/4"C)	BURNDY: GD1629 OR EQUIVALENT
2	1	COPPER CONNECTOR FOR 50MM (2") PIPE FOR 1 COND.	BURNDY: GAR1829 OR EQUIVALENT
3	AS REQ.	COPPER CONNECTOR 31.75MM (1 1/4") PIPE 1 COND.	BURNDY: GAR1629 OR EQUIVALENT
4	1	COPPER CONNECTOR FOR 50MM (2") PIPE FOR 3 COND.	BURNDY: GK1829 OR EQUIVALENT
5	9	CONNECTOR, SERVIT, COPPER	BURNDY: KS29 OR EQUIVALENT
6	2	ANCHOR, SS 304,SS316	HILTI: KB3 ¼" 2–¼" OR EQUIVALENT
7	2	27mm (1") CONDUIT CLAMP 1–HOLE	T&B: 1278 OR EQUIVALENT
8	PER DESIGN	27mm (1") CONDUIT	(GENERIC)
9	2	BUSHING	
10	1	4/0 WIRE TAP TO 4/0 WIRE RUN	BURNDY: B–241 OR EQUIVALENT

NOTES:

1. THE DEPTH OF THE GROUND GRID WILL DEPEND ON LOCAL SITE CONDITIONS AND MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO INSTALLATION. 0.5m IS A TYPICAL VALUE THAT HAS BEEN PROVIDED FOR REFERENCE.
2. CONDUITS SHALL BE TERMINATED SAME LEVEL AS FOUNDATION ABOVE GRADE. CONDUIT DEPTH SHALL BE SUCH THAT THE GROUND WIRE IS PROTECTED FROM DAMAGE AND CAN BE CONNECTED TO THE GROUND GRID. THE DEPTH WILL BE DETERMINED BASED ON LOCAL SITE CONDITIONS. CONDUIT SHALL BE CAPPED UNTIL GROUNDING CONDUCTOR IS INSTALLED.

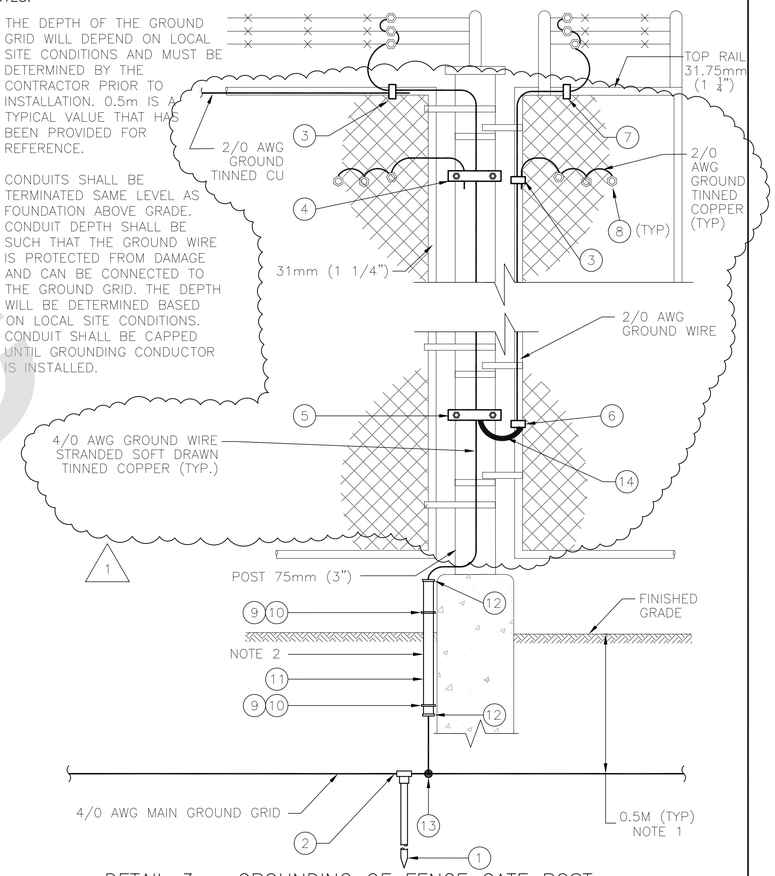


DETAIL 2 – GROUNDING OF FENCE END POST

ITEM	QTY	1 MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	COOPER CONNECTOR, CABLE TO PIPE FOR 31.25 (1 1/4"C)	BURNDY: GD1629 OR EQUIVALENT
2	1	COPPER CONNECTOR FOR 76MM (3"C) (2 COND.)	BURNDY: GD2029 OR EQUIVALENT
3	1	COPPER CONNECTOR FOR 76MM (3"C) (1 COND.)	BURNDY: GAR2029 OR EQUIVALENT
4	AS REQ	COPPER CONNECTOR FOR 31.25MM (1 1/4"C)	BURNDY: GAR1629 OR EQUIVALENT
5	1	HORIZONTAL 4/0 WIRE TO HORIZONTAL PIPE WELD	BURNDY: B–6114 OR EQUIVALENT
6	6	CONNECTOR, SERVIT, COPPER	BURNDY: KS29 OR EQUIVALENT
7	2	ANCHOR, SS 304,SS316	HILTI: KB3 ¼" 2–¼" OR EQUIVALENT
8	2	27mm (1") CONDUIT CLAMP 1–HOLE	T&B: 1278 OR EQUIVALENT
9	PER DESIGN	27mm (1") CONDUIT	(GENERIC)
10	2	BUSHING	
11	1	4/0 WIRE TAP TO 4/0 WIRE RUN	BURNDY: B–241 OR EQUIVALENT

NOTES:

1. THE DEPTH OF THE GROUND GRID WILL DEPEND ON LOCAL SITE CONDITIONS AND MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO INSTALLATION. 0.5m IS A TYPICAL VALUE THAT HAS BEEN PROVIDED FOR REFERENCE.
2. CONDUITS SHALL BE TERMINATED SAME LEVEL AS FOUNDATION ABOVE GRADE. CONDUIT DEPTH SHALL BE SUCH THAT THE GROUND WIRE IS PROTECTED FROM DAMAGE AND CAN BE CONNECTED TO THE GROUND GRID. THE DEPTH WILL BE DETERMINED BASED ON LOCAL SITE CONDITIONS. CONDUIT SHALL BE CAPPED UNTIL GROUNDING CONDUCTOR IS INSTALLED.



DETAIL 3 – GROUNDING OF FENCE GATE POST

ITEM	QTY	MATERIAL DESCRIPTION	MANUFACTURER & CAT. NO.
1	1	COPPER CLAD STEEL GROUND ROD 3MX20MM	(GENERIC)
2	1	HORIZONTAL PARALLEL RUN 4/0 WIRE TO ROD, WELD	BURNDY: B–5677 OR EQUIVALENT
3	2	COPPER CONNECTOR FOR 31.25MM (1 1/4"C)	BURNDY: GD1629 OR EQUIVALENT
4	1	COPPER CONNECTOR FOR 76MM (3"C)	BURNDY: GD2029 OR EQUIVALENT
5	1	COPPER CONNECTOR TO BRAID 76MM (3"C)	BURNDY: GG20–2 OR EQUIVALENT
6	1	COOPER CONNECTOR TO BRAID 31.25MM (1 1/4"C)	BURNDY: GG16–1 OR EQUIVALENT
7	2	COOPER CONNECTOR, CABLE TO PIPE 31.25mm (1 1/4"C)	BURNDY: GAR 1629 OR EQUIVALENT
8	12	CONNECTOR, SERVIT, COPPER 1	BURNDY: KS29 OR EQUIVALENT
9	2	ANCHOR, SS 304,SS316	HILTI: KB3 ¼" 2–¼" OR EQUIVALENT
10	2	27mm (1") CONDUIT CLAMP 1–HOLE	T&B: 1278 OR EQUIVALENT
11	PER DESIGN	27mm (1") CONDUIT	(GENERIC)
12	2	BUSHING	
13	1	4/0 WIRE TAP TO 4/0 WIRE RUN	BURNDY: B–241 OR EQUIVALENT
14	1	FLEXIBLE TIN COPPER BRAID	BURNDY: B2D12 OR EQUIVALENT

Obsolete

REFERENCE DRAWINGS	
DWG NO.	TITLE

ISSUE		
NO.	DATE	ISSUED FOR
3	15/04/06	FINAL DESIGN
2	15/03/06	100% DESIGN
1	15/02/09	90% DESIGN
0	15/01/16	60% DESIGN

REVISIONS		
REV.	DATE	
1	15/04/15	REVISED DETAIL AND MATERIALS 1, 2, 3

DRAWN BY: SB 14/12/11	DESIGNED BY: SXF 14/12/11
CHECKED BY: CTG 15/01/16	APPROVED BY: ZBT 15/01/16
SCALE: NTS	FULL SIZE ONLY

PARSONS BRINCKERHOFF

METROLINX

TRACTION ELECTRIFICATION

GROUNDING AND BONDING

STANDARD INSTALLATION DESIGN DETAILS
FENCES

CONTRACT NO.	DWG. NO.	REV.	SHEET
RQQ–2011–PP–032	MXS–200–006	1	14/26

PLOTTED BY: PAULR PLOTTED DATE: 2015/04/15 PAPER SIZE AT FULL: ANSI D (22.00 x 34.00 INCHES)
FILE: \\FILE-PGCO\1DEPT\GOC\07 PROGRAM MANAGEMENT & STANDARDS\PMPS DESIGN STANDARDS\7 REFERENCE MATERIAL\24. ELECTRIFICATION\GROUNDING AND BONDING STANDARD DRAWINGS\MXS-200-006 REV 1.DWG