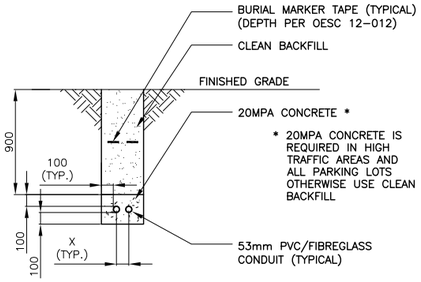



2 DUCTS INSTALLATION DETAILS — 2x53mm — 1 / E-5002

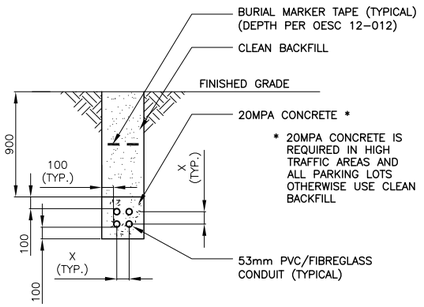
NOTES:
1. THIS DRAWING IS PROVIDED FOR INSTRUCTIONAL DESIGN PURPOSES ONLY BASED ON METROLINX GO TRANSIT DESIGN GUIDELINES AND REQUIREMENTS. THE CONTRACTED PARTY SHALL VERIFY FOR LOCAL CODE COMPLIANCE, EXISTING SITE CONDITIONS AND INTER DISCIPLINARY DRAWING COORDINATION. ALL DIMENSIONS AND SPECIFICATIONS SHOULD BE VERIFIED BY CONTRACTED PARTY AND/OR CONTRACTOR BEFORE CONSTRUCTION BEGINS.
2. THE CONNECTION OF HANDWELLS/PULL BOXES TO DRAINAGE SYSTEM TO BE COORDINATED IN FIELD. PROVIDE 300mm OF CLEAR STONE BEDDING BELOW HANDWELLS/PULLBOXES.
3. REFER TO OPSD 2112.040 REGARDING ELECTRICAL HANDHOLE PRECAST CONCRETE.
4. REFER TO OPSD 2117.020 REGARDING ELECTRICAL HANDHOLES GENERAL INSTALLATION REQUIREMENTS.
5. REFER TO OPSD 2123.030 REGARDING ENTRY OF DIRECT BURIED AND ENCASED DUCTS.
6. REFER TO OPSD 401.010 REGARDING MAINTENANCE HOLES.

NOTES – UNDERGROUND TRENCH DETAILS

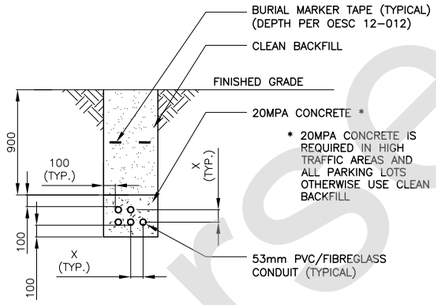
1. POWER AND COMMUNICATION CONDUITS MUST BE IN SEPARATE DUCT BANKS.
2. REFER TO METROLINX DRM FOR CONDUIT INSTALLATION, SPACING, CONDUIT FILL AND MAXIMUM NUMBER OF CONDUCTORS IN CONDUIT.
3. DIMENSION "X" TO MEET OESC (ONTARIO ELECTRICAL SAFETY CODE) REQUIREMENTS BASED ON SYSTEM VOLTAGE.
4. ALL ELECTRICAL SYSTEM GROUNDING FOR POWER AND COMMUNICATIONS SHALL BE INSTALLED INSIDE OF THE CONDUIT WITHIN THE OCLZ.
5. CONDUITS CAN BE INSTALLED INSIDE SCHEDULE 40 OR GREATER STEEL PIPING (SLEEVES) TO CROSS TRACKS OR HIGH TRAFFIC AREA, PROVIDED THAT THE MINIMUM CONDUIT SPACING IS PER THE OESC, BASED ON THE SYSTEM'S VOLTAGE BEING MAINTAINED, AND THE METALLIC SLEEVE WITHIN THE OCLZ AREA IS BONDED TO THE TRACTION POWER RETURN.
6. HANDWELLS AND MANHOLES MUST CONTAIN DRAINAGE TO PREVENT THE ACCUMULATION OF WATER. SLOPE DUCTS AWAY FROM BUILDING ENTRANCES.
7. FOR HANDWELLS LOCATED IN ELECTRIFICATION ZONE, GROUNDING WIRE NEEDS TO BE VERIFIED TO WITHSTAND STEP AND TOUCH VOLTAGE LEVELS. COORDINATE WITH ELECTRIFICATION KA FAULT LEVELS AND TIMING. REFER TO DRM REQUIREMENTS OR GROUNDING – WHICHEVER IS MORE STRINGENT.
8. RACEWAYS AND BRANCH CIRCUITRY SHALL BE IMPLEMENTED TO MINIMIZE FAILURE OF A COMPLETE SYSTEM DUE TO FAILURE OR MALFUNCTIONING OF ANY SINGLE ELECTRICAL COMPONENT.
9. MINIMIZE THE DISTRIBUTION OF CONDUCTORS OF DIFFERENT CIRCUITS SHARING COMMON RACEWAYS, PULL BOXES, ETC.
10. RACEWAYS SELECTED SHALL RESIST MECHANICAL DAMAGE AND ENVIRONMENTAL DETERIORATION EFFECTS.
11. SPECIAL ATTENTION SHALL BE APPLIED TO CORROSION INHIBITORS AND PROTECTIVE COATINGS OR TREATMENTS ON SURFACE MOUNTED CONDUIT IN AREAS CAPABLE OF CORROSION OR CONDENSATION DUE TO TEMPERATURE CHANGE AND PROTECTION AGAINST EMI/EMC SUCH AS GROUNDING AND SHIELDING.
12. REFER TO COMMUNICATION DRAWINGS FOR COMPLETE LAYOUT.
13. PROVIDE STRUCTURAL SUPPORTS AND GROUNDING AS REQUIRED.
14. ACCOUNT FOR FUTURE LEVEL BOARDING WHEN ESTABLISHING THE DUCT BANK DEPTH.
15. THE TYPE OF CONTAINMENT ( DUCT BANK WITH/WITHOUT CONCRETE, DIRECT BURIED, ETC.) SHALL BE COORDINATED AS PER SITE CONDITIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH OESC CODE AND PROJECT SPECIFICATIONS.
16. FOR CONCRETE DUCT BANKS, REINFORCEMENT DETAILS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH CONTRACT AND PROJECT SPECIFICATIONS.
17. DESIGNATE TOP LEVEL OF CONDUITS AS SPARE FOR FUTURE USE AND EASE OF ACCESSIBILITY.

METRIC

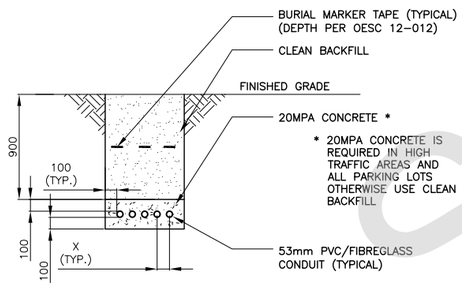
ALL DIMENSIONS SHOWN ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE NOTED.



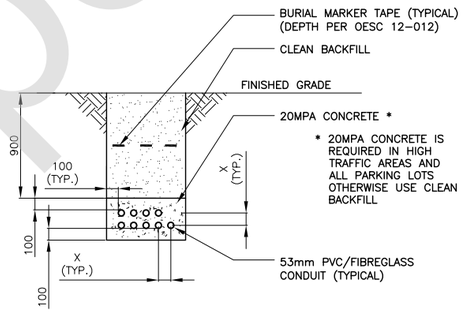

4 DUCTS INSTALLATION DETAILS — 4x53mm — 2 / E-5002



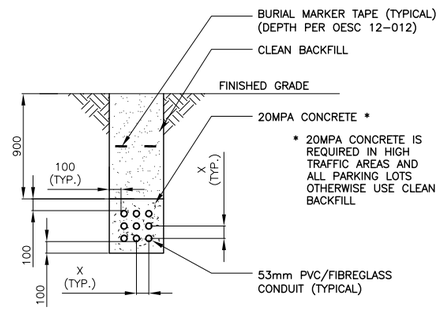

5 DUCTS INSTALLATION DETAILS — 5x53mm — 3 / E-5002




5 DUCTS INSTALLATION DETAILS — 5x53mm — 4 / E-5002




9 DUCTS INSTALLATION DETAILS — 9x53mm — 5 / E-5002




9 DUCTS INSTALLATION DETAILS — 9x53mm — 6 / E-5002

METROLINX PROJECT NO.

| REFERENCE DRAWINGS | | ISSUE | | | REVISIONS | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | 0 | 21/03/09 | INITIAL ISSUE | | | |
| DWG NO. | TITLE | NO. | DATE | ISSUED FOR | REV. | DATE | |

| | |
|---|---|
| DRAWN BY: X.X.X. YY/MM/DD | DESIGNED BY: X.X.X. YY/MM/DD |
| CHECKED BY: X.X.X. YY/MM/DD | APPROVED BY: X.X.X. YY/MM/DD |
| SCALE: 1:XXX | FULL SIZE ONLY |

METROLINX

# XXXXXXX STATION

SAMPLE ELECTRICAL TRENCH DETAILS – 2 OF 2

| DWG. NO. | REV. | SHEET |
|---|---|---|
| 165-SER-E-5002 | 0 | |