

**GENERAL NOTES**

1. THE GENERAL NOTES AND STRUCTURAL STANDARD DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. ALL ELEVATIONS ARE IN METRES AND ARE TO GEODETIC DATUM. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
3. THE DESIGN AND CONSTRUCTION IS IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 1995, ITS SUPPLEMENTS AND THE LATEST EDITIONS (UNLESS OTHERWISE NOTED) OF REFERENCED CODES AND STANDARDS THEREIN.
4. REFER TO THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF OPENINGS, SLEEVES AND OTHER BUILDING COMPONENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH CONSTRUCTION.
5. CONTRACTOR TO CONFIRM ALL OCCURRENCES OF INTERFERENCE BETWEEN NEW AND EXISTING. REPORT ALL DISCREPANCIES BETWEEN THAT SHOWN ON THE DRAWINGS AND EXISTING TO THE CONTRACT ADMINISTRATOR, IMMEDIATELY UPON DISCOVERY. KEEP ACCURATE AS-BUILT RECORDS OF ALL NEW WORKS AND RELOCATED OR MODIFIED EXISTING FACILITIES.
6. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING, OR BRACING, SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR REVIEW.

**CONCRETE NOTES**

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA-A23.1-00 UNLESS SPECIFIED HEREIN. THE CONTRACTOR SHALL HAVE A COPY OF THIS STANDARD ON SITE AT ALL TIMES. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENT SHALL APPLY.
2. INTERIOR CONCRETE: EXPOSURE CLASS N, MIN. 28-DAY COMPRESSIVE STRENGTH 30MPa, CEMENT TYPE 10, MAXIMUM WATER/CEMENT RATIO 0.50, MAXIMUM AGGREGATE SIZE 20mm, SLUMP 90mm ±25, AIR ENTRAINMENT NOT REQUIRED.
3. SPECIFIED SLUMPS ARE PRIOR TO THE ADDITION OF ANY ACCEPTED PLASTICIZING ADMIXTURE. WHEN CONCRETE IS PLACED BY PUMPING, THE LISTED SLUMPS SHALL BE AT DISCHARGE. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 kg/CUBIC METER UNLESS NOTED OTHERWISE.
4. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
5. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AND TESTING FIRM, IN AMPLE TIME TO PERMIT SCHEDULING, PRIOR TO ANY CONCRETE POUR. IF AMPLE TIME IS NOT ALLOWED, ALTERNATE CONCRETE TESTS WILL BE PERFORMED TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR AND PAID FOR BY THE CONTRACTOR.
6. AT LEAST THREE CONCRETE CYLINDERS WILL BE TAKEN FOR EVERY 50 CUBIC METERS OR LESS OF EACH CLASS OF CONCRETE PLACED. ADDITIONAL FIELD CYLINDERS MAY BE TAKEN AS DIRECTED BY THE CONTRACT ADMINISTRATOR TO EXPEDITE CONSTRUCTION. AIR AND SLUMP TESTS MAY BE TAKEN ON EVERY CONCRETE LOAD. SLUMP TESTS WILL BE TAKEN PRIOR TO ADDITION OF SUPERPLASTISIZER.

**REINFORCING STEEL NOTES:**





1. DEFORMED BARS CONFORMING TO CSA G30.18 GRADE 400 PLAIN FINISH.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA-A23.1 AND CSA-A23.3.
3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL OF STANDARD PRACTICE.
4. PROVIDE CLEAR CONCRETE COVER OVER REBAR AS FOLLOWS: 50mm UNLESS NOTED OTHERWISE.

**MISCELLANEOUS STEEL NOTES**

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA-S16.1.
2. PROVIDE STRUCTURAL STEEL SHAPES TO CSA-G40.21, GRADE 350W.
3. STEEL PLATES: CONFORMING TO CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
4. HOLLOW STRUCTURAL SECTIONS: CONFORMING TO CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 350 MPa.
5. ANCHOR BOLTS: CONFORMING TO ASTM A307.
6. WELDING MATERIALS: CONFORMING TO CSA W59.
7. WELDING OF ALL LOAD CARRYING ASSEMBLIES IS TO BE PERFORMED BY A FIRM CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA W47.1 IN DIVISION 2.
8. GROUT: NON-SHRINK, NON-METALLIC, 35 MPa AT 28 DAYS.
9. SUPPLY ALL COMPONENTS REQUIRED FOR PROPER ANCHORAGE OF MISCELLANEOUS STEEL ITEMS. FABRICATE ANCHORAGE AND RELATED COMPONENTS OF SAME MATERIAL AND FINISH AS METAL FABRICATIONS, UNLESS OTHERWISE SPECIFIED OR SHOWN.
10. GALVANIZING CONFORMING TO CSA G164.
11. CLEAN ALL STEEL PRIOR TO PRIMING TO SSPC SURFACE PREPARATION SPECIFICATION No. 7 "BRUSH-OFF BLAST CLEANING".
12. PRIME STEEL SURFACES WITH ONE COAT OF PRIMER TO CISC/CPMA 2-75.

**STANDARD ABBREVIATIONS:**

|                               |                  |                 |         |
|-------------------------------|------------------|-----------------|---------|
| ADDITIONAL                    | ADD'L            | SECTION         | SECT.   |
| AT                            | ⊙                | SHEET           | SHT.    |
| ANCHOR BOLT                   | A. BOLT          | SIMILAR         | SIM.    |
| ALTERNATE                     | ALTER.           | SCHEDULE        | SCH.    |
| ALUMINUM                      | ALUM.            | SPECIFICATION   | SPEC.   |
| APPROXIMATE                   | APPROX.          | STAINLESS STEEL | S.S.    |
| ARCHITECTURAL                 | ARCH.            | STANDARD        | STD.    |
| AVERAGE                       | AVG.             | STIFFENER       | STIFF.  |
| BOTTOM                        | BOT.             | STIRRUP         | STIRR.  |
| BETWEEN                       | BET.             | STRUCTURAL      | STRUCT. |
| BUILDING                      | BLDG.            | SYMMETRICAL     | SYM.    |
| BENCH MARK                    | B.M.             | TOP OF          | T.O.    |
| BEARING                       | BRG.             | TYPICAL         | TYP.    |
| BY (Between dims)             | x (lower case)   | UNLESS NOTED    | U/N     |
| CENTERLINE                    | ⊕                | VERTICAL        | VERT.   |
| CAST IN PLACE                 | C.I.P.           | WIND LOAD       | W.L.    |
| CONCRETE MASONRY UNIT         | C.M.U.           |                 |         |
| CONSTRUCTION                  | CONST.           |                 |         |
| CONSTRUCTION JOINT            | C.J.             |                 |         |
| COMPLETE WITH                 | C/W              |                 |         |
| COLUMN                        | COL.             |                 |         |
| CONCRETE                      | CONC.            |                 |         |
| CONTINUOUS                    | CONT.            |                 |         |
| DEAD LOAD                     | D.L.             |                 |         |
| DIAMETER                      | DIA.             |                 |         |
| DIMENSION                     | DIM.             |                 |         |
| DOWN                          | DN.              |                 |         |
| DOUBLE                        | DBL.             |                 |         |
| DRAWING                       | DWG.             |                 |         |
| DOWEL                         | DWL.             |                 |         |
| EACH FACE                     | E.F.             |                 |         |
| EACH                          | EA.              |                 |         |
| EACH WAY                      | E.W.             |                 |         |
| ELEVATION                     | EL.              |                 |         |
| ELECTRICAL                    | ELEC.            |                 |         |
| EQUAL                         | EQ.              |                 |         |
| EXISTING                      | EXIST.           |                 |         |
| EXPANSION JOINT               | EXP. J.          |                 |         |
| EXPANSION                     | EXP.             |                 |         |
| EXTERIOR                      | EXT.             |                 |         |
| FACE TO FACE                  | F. to F.         |                 |         |
| FLOOR                         | FLR.             |                 |         |
| FACE OF CONCRETE              | F.O.C.           |                 |         |
| FIBERGLASS REINFORCED PLASTIC | FRP.             |                 |         |
| FOUNDATION                    | FDN.             |                 |         |
| FOOTING                       | FTG.             |                 |         |
| GALVANIZE                     | GALV.            |                 |         |
| HANGER                        | HGR.             |                 |         |
| HIGH WATER LEVEL              | H.W.L.           |                 |         |
| HORIZONTAL                    | HORIZ.           |                 |         |
| HOLLOW STRUCTURAL STEEL       | HSS              |                 |         |
| HEIGHT                        | HT.              |                 |         |
| HOLLOWCORE                    | H.C.             |                 |         |
| INSIDE FACE                   | I.F.             |                 |         |
| INSIDE DIAMETER               | I.D.             |                 |         |
| INTERIOR                      | INT.             |                 |         |
| INVERT                        | INVT.            |                 |         |
| KILONEWTON                    | kn               |                 |         |
| K.O. MASONRY BLOCK            | K.O.             |                 |         |
| KILOPASCAL                    | kPa              |                 |         |
| LIVE LOAD                     | L.L.             |                 |         |
| LONG                          | LG.              |                 |         |
| LOCATION                      | L.O.C.           |                 |         |
| MATERIAL                      | MATL.            |                 |         |
| MAXIMUM                       | MAX.             |                 |         |
| MEGAPASCAL                    | MPa              |                 |         |
| MECHANICAL                    | MECH.            |                 |         |
| MILLIMETER                    | mm               |                 |         |
| MINIMUM                       | MIN.             |                 |         |
| MISCELLANEOUS                 | MISC.            |                 |         |
| NUMBER                        | No.              |                 |         |
| NOT TO SCALE                  | N.T.S.           |                 |         |
| ON CENTER                     | o/c (lower case) |                 |         |
| OUTSIDE FACE                  | O.F.             |                 |         |
| OUT TO OUT                    | o/o              |                 |         |
| OUTSIDE DIAMETER              | O.D.             |                 |         |
| OPENING                       | OPNG.            |                 |         |
| OPEN WEB STEEL JOIST          | OWSJ.            |                 |         |
| OPPOSITE                      | OPP.             |                 |         |
| ORIGINAL                      | ORIG.            |                 |         |
| PLATE                         | PL.              |                 |         |
| POLYVINYL COMPOSITE           | PVC.             |                 |         |
| PRELIMINARY                   | PRELIM.          |                 |         |
| PROJECTION                    | PROJ.            |                 |         |
| REINFORCE WITH REINFORCING    | R/W REINF.       |                 |         |
| REQUIRED                      | REQ'D            |                 |         |
| REVISION                      | REV.             |                 |         |

|  |            |  |  |                                 |  |   |   |                    |                     |
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| <br><b>Certificate of Authorization</b><br>Earth Tech Canada Inc.<br>No. 730 Expiry: April 30, 2007 | B.M. ELEV. | <br>Frederickson Cooper<br>ARCHITECTS | <br>A Tyco International Ltd. Company | ENGINEER'S SEAL                 | <br><b>THE CITY OF WINNIPEG</b><br>WATER AND WASTE DEPARTMENT<br>ENGINEERING DIVISION | WATER TREATMENT PLANT<br>DEACON BOOSTER PUMP STATION<br>UPGRADE | CITY FILE NUMBER                            |                    |                     |
|  |            |  |  | DESIGNED BY GGP                 |  |   | CHECKED BY MK                               | ORIGINAL SIGNED BY |                     |
|  |            |  |  | DRAWN BY CMF                    |  |   | APPROVED BY AHL                             | M. KLASSEN         | SHEET OF            |
|  |            |  |  | SCALE: NTS                      |  |   | RELEASED FOR CONSTRUCTION BY: R. SOROKOWSKI | 2007/03/16         | CITY DRAWING NUMBER |
| 00 ISSUED FOR TENDER   | 07/03/19   | KK   |  | CONSULTANT DRAWING NO. WD-S0106 |  |   | 1-0601D-A-50106-001-000                     |                    |                     |
| NO. REVISIONS  | DATE       | BY   | DATE 2006/10/24  | DATE 2007/03/16                 |  |   |   |                    |                     |