

GENERAL NOTES

- 1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.
3. THE DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2005, WITH MANITOBA AMENDMENTS, ITS SUPPLEMENTS AND THE LATEST EDITIONS OF REFERENCED CODES AND STANDARDS THEREIN, UNLESS NOTED OTHERWISE.
4. REFER TO THE MECHANICAL, ELECTRICAL, AND PROCESS 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 DIMENSIONS, WEIGHTS AND ALL OTHER CRITICAL DETAILS WITH EQUIPMENT SUPPLIERS PRIOR TO CONSTRUCTION. REPORT DISCREPANCIES TO THE CONTRACT ADMINISTRATOR AND OBTAIN AUTHORIZATION IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. DRAWINGS SHOW COMPLETED STRUCTURE ONLY. PROVIDE TEMPORARY BRACING FOR CONSTRUCTION LOADING CONDITIONS AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
7. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING SHALL BE SUBMITTED TO THE CONTRACT ADMINISTRATOR FOR REVIEW. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER, REGISTERED IN THE PROVINCE OF MANITOBA, TO PERFORM AND TAKE RESPONSIBILITY FOR ANY SHORING OR OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
8. NOTIFY THE CONTRACT ADMINISTRATOR A MINIMUM 48 HOURS IN ADVANCE FOR REVIEWS.
9. VERIFY LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCING CONSTRUCTION AND BE RESPONSIBLE FOR DISRUPTIONS.
10. SUBMIT SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR REVIEW PRIOR TO FABRICATION IN ACCORDANCE WITH SPECIFICATIONS. ALL SHOP DRAWINGS TO BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. DRAWINGS NOT SEALED WILL NOT BE REVIEWED. THE FOLLOWING SHOP DRAWINGS ARE REQUIRED FOR THIS INSTALLATION:
-REINFORCING STEEL
-STEEL FABRICATIONS
-CONCRETE QUALITY CONTROL PLAN
-CONCRETE MIX DESIGN STATEMENTS
-WOOD TRUSSES
11. BUILDING CONTROL LINES, REFERENCE LINES, GRID LINES, AND TEMPORARY BENCH MARKS TO BE CLEARLY IDENTIFIED AND MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD.

DESIGN LOADS:

REFER TO DESIGN LOADS SHOWN ON DRAWINGS.

FOUNDATION NOTES

- 1. FOOTING FOUNDATION NOTES:
.1 DESIGN BEARING CAPACITY:
SLAB ON GRADE - BASE SLAB: 75 kPa
.2 BEARING SURFACES FOR SLABS SHALL BE REVIEWED AND ACCEPTED BY THE CONTRACT ADMINISTRATOR PRIOR TO CASTING OF CONCRETE. PROTECT BEARING SURFACES. DO NOT PLACE CONCRETE ON FROZEN SOIL.
.3 PREVENT SUBGRADE FROM FREEZING AFTER CASTING SLABS UNTIL CONSTRUCTION IS COMPLETE AND STRUCTURES ARE IN SERVICE.

EXCAVATION, BACKFILLING AND COMPACTION NOTES

- 1. SUBMIT AN EXCAVATION PLAN SEALED BY PROFESSIONAL ENGINEER REGISTERED IN PROVINCE OF MANITOBA PRIOR TO EXCAVATION AS PER SPECIFICATIONS.
2. EXCAVATE TO LINES AND LEVELS NECESSARY TO PROPERLY COMPLETE THE WORK. CONTROL EXCAVATION TO ENSURE BOTTOM OF EXCAVATION DOES NOT SOFTEN DUE TO EXCESS MOISTURE. CONSTRUCT SLOPES IN BOTTOM OF EXCAVATION FOR DRAINAGE AS REQUIRED.
3. DO NOT PLACE BACKFILL ON FROZEN GROUND, NOR USE FROZEN MATERIAL.
4. DEWATERING
A.) DEWATERING AND SITE DRAINAGE DURING CONSTRUCTION IS CONTRACTOR'S RESPONSIBILITY AT HIS OWN EXPENSE.
B.) THE DEWATERING SYSTEMS MUST PROTECT THE SUBGRADE SOILS FROM EXCESSIVE SOFTENING AND SATURATION.
5. OVER EXCAVATION BENEATH FOOTINGS SHALL REPLACE WITH FILL MATERIAL OF 10 MPa STRENGTH LEAN CONCRETE.

REINFORCING STEEL NOTES

- 1. DEFORMED BARS CONFORMING TO CAN/CSA G30.18, GRADE 400. LAP SPLICES AS PER CSA A23.3.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CAN/CSA 23.1 AND CSA 23.3.
3. UNLESS SPECIFIED OTHERWISE HEREIN, TOLERANCES FOR REINFORCING STEEL REQUIREMENTS:
A) CONCRETE PROTECTION
SECTIONS < 300 ± 6 mm
ALL OTHERS ± 10 mm
B) LOCATION
SECTIONS < 300 ± 8 mm
SECTIONS 300 TO 600 ± 12 mm
ALL OTHERS ± 20 mm
C) LOCATION OF BAR ENDS ± 50 mm
4. BARS SHOWN DOTTED TO BE PLACED IN BOTTOM OF SLAB. BARS SHOWN SOLID TO BE PLACED IN TOP OF SLAB. DESIGNATIONS ON DRAWINGS AS FOLLOWS:
TUL TOP UPPER LAYER
TLL TOP LOWER LAYER
BUL BOTTOM UPPER LAYER
BLL BOTTOM LOWER LAYER

CONCRETE NOTES

- 1. PROVIDE CONCRETE AND PERFORM WORK, IN ACCORDANCE WITH ALTERNATIVE METHOD (1) PERFORMANCE, TO CAN/CSA A23.1. THE CONTRACTOR SHALL HAVE A COPY OF THIS STANDARD ON SITE AT ALL TIMES. SUBMIT QUALITY CONTROL PLAN PRIOR TO START OF WORK PER SPECIFICATIONS.
2. FORMWORK AND FALSEWORK DESIGN SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT TO CONTRACT ADMINISTRATOR FOR REVIEW.
3. TEST CONCRETE IN ACCORDANCE WITH CAN/CSA A23.2. TEST RESULTS SHALL BE SUBMITTED TO CONTRACT ADMINISTRATOR. CONTRACTOR TO NOTIFY THE CONTRACT ADMINISTRATOR 48 HOURS IN ADVANCE OF ALL CONCRETE CASTS.
4. CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:

Table with 4 columns: MIX TYPE, INTENDED APPLICATION, MINIMUM COMPRESSIVE STRENGTH (MPa), CSA EXPOSURE CLASS. Includes rows for structural concrete for valve chamber, structural concrete for main slab, grout or concrete used in masonry fill, and lean mix.

- 5. PROVIDE CLEAR CONCRETE COVER OVER REBAR AS FOLLOWS:
A) SURFACE POURED AGAINST GROUND, BOTTOM OF SLAB ON GRADE 75 mm
B) FORMED SURFACES EXPOSED TO GROUND OR WEATHER: 50 mm
C) FORMED SURFACES NOT EXPOSED TO GROUND OR WEATHER:
BEAMS, COLUMNS (TO STIRRUPS OR TIES) 40 mm
WALLS 40 mm
SLABS 40 mm

- 6. CONCRETE CONSTRUCTION TOLERANCES:
1.) CROSS SECTIONAL DIMENSIONS
300mm OR LESS ± 6 mm
300mm TO 1000mm ± 12 mm
1000mm OR GREATER ± 20 mm
2.) VARIATION FROM HORIZONTAL AND VERTICAL REFERENCE SYSTEM AND GENERAL DIMENSIONS:
A) HORIZONTAL FOOTINGS COLUMNS ± 20 mm ± 6 mm
B) VERTICAL FOOTINGS COLUMNS BEAM ± 25 mm ± 8 mm ± 4 mm
C) FLATNESS GENERAL SURFACES - MODERATELY FLAT (8mm GAP ALONG 3000mm STRAIGHT EDGE)

- 7. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
8. VERIFY SIZE AND LOCATION OF ALL OPENINGS, CURBS AND EQUIPMENT PADS WITH PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS AND PROCESS, MECHANICAL AND ELECTRICAL CONTRACTORS. MAJOR OPENINGS NOT SHOWN TO BE VERIFIED WITH CONTRACT ADMINISTRATOR.

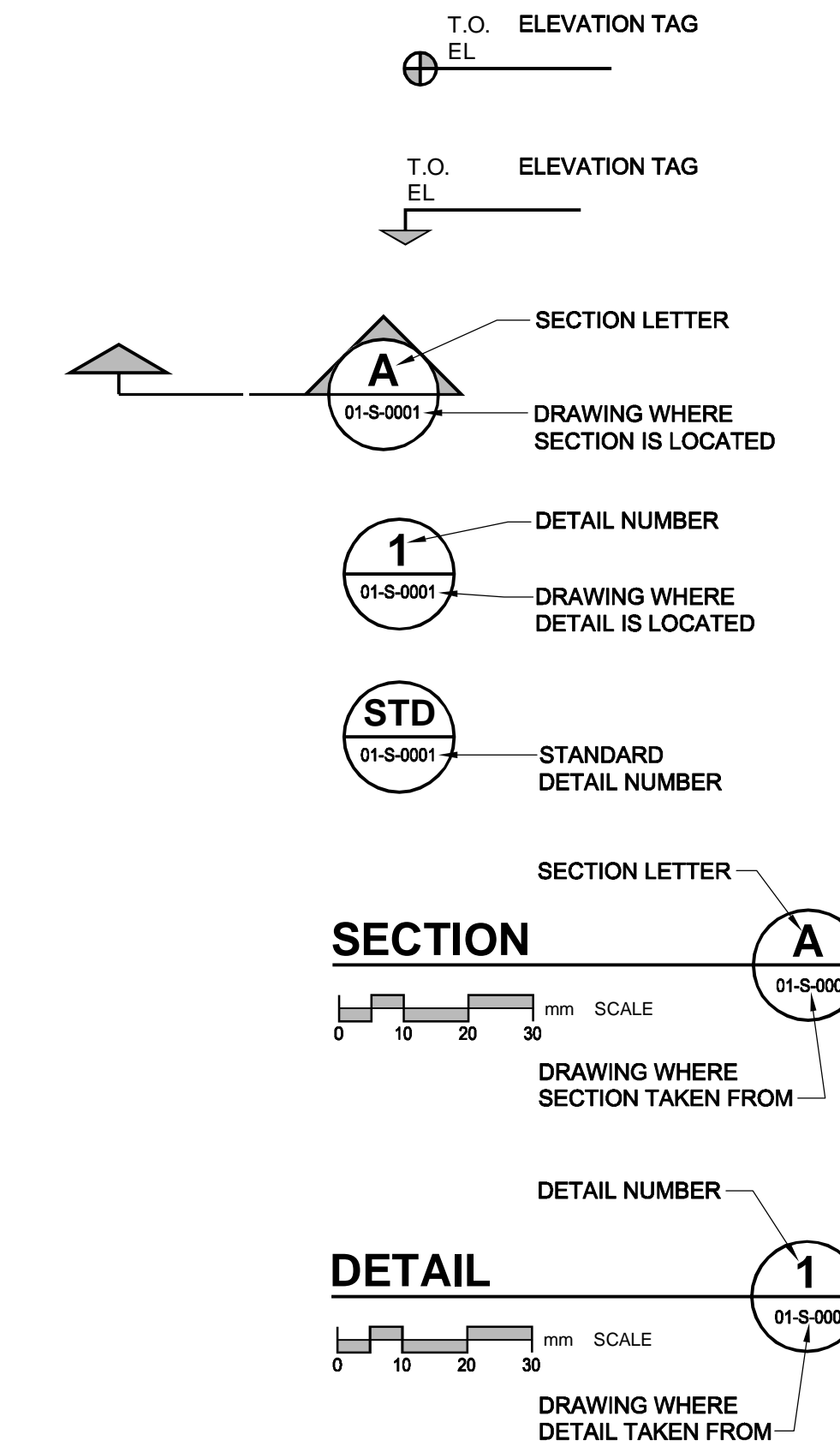
STEEL FABRICATIONS

- 1. STEEL PLATES, CHANNELS, AND ANGLES: CONFORMING TO CAN/CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
2. HOLLOW STRUCTURAL SECTIONS AND W-SECTIONS: CONFORMING TO CAN/CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 350 MPa.
3. ANCHOR BOLTS: CONFORMING TO ASTM A307.
4. WELDING MATERIALS: CONFORMING TO CAN/CSA W59.
5. 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.
6. VERIFY ALL DIMENSIONS ON SITE PRIOR TO FABRICATION.
7. SUPPLY ALL COMPONENTS REQUIRED FOR PROPER ANCHORAGE OF STEEL FABRICATIONS. FABRICATE ANCHORAGE AND RELATED COMPONENTS OF SAME MATERIAL AND FINISH AS STEEL FABRICATIONS, UNLESS OTHERWISE SPECIFIED OR SHOWN.
8. GALVANIZING SHAPES TO ASTM A123, FASTENERS TO ASTM A153.
9. CONNECTION BOLTS: CONFORMING TO ASTM A325.

WOOD NOTES

- 1. WOOD CONSTRUCTION SHALL CONFORM TO CSA 086 AND PART 9 OF NBC 2005.
2. ROOF SHEATHING: DOUGLAS FIR PLYWOOD TO CSA-0121, CANADIAN SOFTWOOD PLYWOOD TO CSA-0151, OR CONSTRUCTION SHEATHING OSB TO CSA-0325.
3. WOOD FRAMING MATERIAL (UNLESS OTHERWISE SPECIFIED): S-P-F OR D.F.I.R.L. NO. 1/NO. 2 (S-DRY) ROOF TRUSSES: KILN DRIED
4. ALL TRUSSES, JOISTS, FRAMING, AND DECKING DELIVERED TO THE SITE SHALL BE KEPT DRY. NO WARPED MATERIAL SHALL BE USED.

STANDARD SYMBOLS:



STRUCTURAL STANDARD ABBREVIATIONS:

Table listing structural abbreviations such as ACOUSTIC, ADDITIONAL, ADHESIVE, ADJUSTABLE, AGGREGATE, AIR HANDLING UNIT, AIR VAPOUR BARRIER, ALTERNATE, ALUMINUM, ANCHOR BOLT, APARTMENT, APPROXIMATE, ARCHITECTURAL, AT, AVERAGE, BEARING, BENCH MARK, BETWEEN, BOARD, BOTH SIDES, BOTTOM BUILDING, BY (BETWEEN DIMS), CAST IN PLACE, CAST IRON, CATCH BASIN, CEMENT BOARD, CENTERLINE, CIRCULAR, CLEAN OUT, CLEAR SPAN, COLUMN, COMPLETE WITH CONCRETE, CONCRETE PIPE CONSTRUCTION, CONSTRUCTION JOINT, CONTINUOUS, CORRUGATED METAL PIPE, COUNTERSINK, DEAD LOAD, DEGREE, DIAMETER, DIMENSION, DOWN, DOWEL, DRAWING, EACH FACE, EACH WAY, EAST, ELECTRICAL, ELEVATION, ELEVATOR, EQUAL, EQUAL SPACE, EXCAVATION, EXISTING, EXPANSION, EXPANSION JOINT, EXTERIOR, FACE TO FACE, FACE OF CONCRETE, FAR SIDE, FIBREBOARD, FINISH, FLOOR DRAIN, FOUNDATION, FOOTING, GALVANIZE, GALVANIZED IRON, GAUGE, GRANULAR, GRANULAR BASE, GRANULAR BACK FILL, GRID LINE, GUARD RAIL, HANGER, HEIGHT, HEXAGON, HOLLOW STRUCTURAL STEEL, HORIZONTAL, INCLUSIVE, INSIDE DIAMETER, INSIDE FACE, INTERIOR, INVERT ELEVATION, JUNCTION, KILONEWTON, KNOCK DOWN, LIVE LOAD, LONG LEG HORIZONTAL, ACST, ADDL, ADH, ADJ, AGGR, A.H.U., A.V.B., ALTER, ALUM, A. BOLT, APT, APPROX, ARCH, @, AVG, BRG, B.M., BET, BD, B.S., B.W., BOT, BLDG, C.I.P., C.I., C.B., C.BD., C/C, CIRC, C.O., CL. SPAN, COL, CONC, C.P., CONSTR, C.J., CONT, C.M.P., CSK, D.L., °, Ø OR DIA., DIM, DN, DWL, DWG, E.F., E.W., E, ELECT, EL, ELEV, EQ, EQ SP, EXC, EXIST, EXP, E.J., EXT, F/F, F.O.C., F.S., FBRBD, FIN, F.D., FDN, FTG, GALV, G.I., GA, GRAN, G.B., GBFL, G.L., G.R., HGR, HT, HEX, HSS, HORIZ, INCL, I.D., I.F., INT., INVT EL, JCT, KN, K.D., L.L., L.L.H., LONG LEG VERTICAL, LOUVRE, MAKE UP AIR UNIT, MANUFACTURE, MARK, MASONRY OPENING, MATERIAL, MAXIMUM, MECHANICAL, METER, MILLIMETER, MINIMUM, MISCELLANEOUS, NEAR FACE, NEAR SIDE, NORTH, NOT APPLICABLE, NOT IN CONTRACT, NOT TO SCALE, NUMBER, ON CENTER, OPENING, OPEN WEB STEEL JOIST, OPPOSITE, ORIGINAL, OUTSIDE DIAMETER, OUTSIDE FACE, OUT TO OUT, OVERHEAD, PERPENDICULAR, PLATE, PLYWOOD, PRE-CAST, PREFABRICATED, PREFINISHED, PRELIMINARY, PROJECTION, QUANTITY, RADIUS, REFERENCE, REINFORCE WITH REINFORCING, REQUIRED, RETAINING WALL, REVISION, ROOF DRAIN, ROUGH OPENING, SCHEDULE, SECTION, SELF ADHESIVE, SHEATHING, SHEET, SIMILAR, SKETCH, SOUTH, SPECIFICATION, SQUARE FEET, STAINLESS STEEL, STANDARD, STIFFENER, STIRRUP, STRUCTURAL, SYMMETRICAL, TANGENT, TEMPORARY, TO MATCH EXISTING, TOP OF, TYPICAL, UNDERCUT, UNLESS NOTED, VERTICAL, WEIGHT, WIND LOAD, WITH, WITH OUT, WOOD, WROUGHT IRON, L.L.V., LVR, M.U.A., MFG, MK, M.O., MATL, MAX, MECH, m (lower case), mm (lower case), MIN, MINISC, N.F., N.S., N, N/A, N.I.C., N.T.S., No., o/c (lower case), OPG, O.W.S.J., OPP, ORIG, O.D., O.F., O/O, O/H, PERP, PL, PLYWD, P/C, PREFAB, PRELIM, PROJ, QTY, R, REF, R/W, REINF, REQ'D, R.W., REV, R.D., R.O., SCHED, SECT, S.A., SHGT, SK, S, SPEC, SQ. FT., S.S., STD, STIFF, STIRR, STRUC, SYM, TAN, TEMP, T.M.E., T.O., TYP, U. CUT, U/N, VERT, WT, W.L., w/, W/O, WD, W.I.

MASONRY NOTES

- 1. ALL MASONRY WALLS SHALL CONFORM TO CSA S304.1, A371 AND TO DETAILS SHOWN ON DRAWINGS.
2. MASONRY BLOCK UNITS SHALL CONFORM TO CSA A165.1. CLASSIFICATION H/15/A/M WITH A MINIMUM UNIT STRENGTH OF 15 MPa, UNLESS NOTED OTHERWISE.
3. ALL MORTAR SHALL CONFORM TO CSA A179 AND SHALL BE TYPE 'S'.
4. ALL LINTELS, BOND BEAMS, BLOCKS AND PILASTERS SHALL BE FILLED WITH CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa.
5. PROVIDE DOWELS FROM CONCRETE TO MATCH MASONRY WALL REINFORCING UNLESS NOTED OTHERWISE.

LOCATION APPROVED UNDERGROUND STRUCTURES

Table with columns for SUPR. U/G STRUCTURES, DATE COMMITTEE, and a grid for location approval.



Table with columns for DESIGNED BY (KK/GGP), CHECKED BY (GGP), DRAWN BY (KK), APPROVED BY (Bryan Weber), HOR. SCALE (AS SHOWN), VERT. SCALE (-), DATE (10/02/09), and RELEASED FOR CONSTRUCTION (KZ).

PROFESSIONAL'S SEAL: ORIGINAL SIGNED BY B.F. ABDUL WAHID, 2010/02/08, CONSULTANT DRAWING NO. D265-250-00_01-S-0001_RX.dwg

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT. BRANCH I AQUEDUCT VALVE CHAMBER AT McPHILLIPS STREET PUMPING STATION. STRUCTURAL GENERAL NOTES. SHEET 12 OF 28. CITY DRAWING NUMBER D-11922. REV 0.