

**GENERAL NOTES**

1. READ THE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER PERTINENT CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT, GENERAL CONDITIONS SPECIFIES ORDER OF PRECEDENCE.
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.
3. THE DESIGN AND CONSTRUCTION SHALL BE 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, PROCESS, 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

**DESIGN LOADS**

1. LOADS SHALL CONFORM TO THE NATIONAL BUILDING CODE OF CANADA 1995 AND SUPPLEMENTS.
2. DEAD LOADS: AS INDICATED ON CORRESPONDING DRAWINGS.
3. LIVE LOADS: AS INDICATED ON CORRESPONDING DRAWINGS.
4. WIND LOADS:  $q (1/50)=0.45 \text{ kPa}$
5. ADDITIONAL DESIGN LOADS FOR EQUIPMENT ARE INDICATED ON CORRESPONDING DRAWINGS.
6. CONTRACTOR TO VERIFY FINAL EQUIPMENT WITH CONTRACT AND REPORT DISCREPANCIES AND OBTAIN APPROVAL FROM THE ADMINISTRATOR PRIOR TO PROCEEDING WITH CONSTRUCTION.

**FOUNDATION NOTES:**

1. ALL FOUNDATION CONSTRUCTION SHALL BE PERFORMED WITH REFERENCE TO THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL INFORMATION AVAILABLE FOR THE SITE.
2. FOUNDATIONS ARE DESIGNED IN COMBINATION AS DRIVEN, END BEARING, PRESTRESSED PRECAST CONCRETE PILES.
3. PRECAST PILE CUT-OFF ELEVATIONS SHALL BE AS SHOWN ON THE DRAWINGS. A MINIMUM OF 450 mm OF STRAND LENGTHS SHALL BE EXPOSED FOLLOWING THE PILE CUT-OFF.
4. PRECAST PILE NOTES:
  - 1) PRECAST PRESTRESSED CONC PILES DESIGNED AS DRIVEN, END BEARING WITH THE FOLLOWING DESIGN CAPACITY:
    - .1 300MM HEX - ALLOWABLE LOAD CAPACITY = 445 KN
    - .2 350MM HEX - ALLOWABLE LOAD CAPACITY = 625 KN
    - .3 400MM HEX - ALLOWABLE LOAD CAPACITY = 800 KN
  - 2) SEE SPECS. FOR PREBORING REQUIREMENTS.

**EXCAVATION, BACKFILLING AND COMPACTION NOTES**

1. AN EXCAVATION PLAN SHALL BE PREPARED, SEALED AND SIGNED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT EXCAVATION PLAN FOR REVIEW. VERIFY LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCING EXCAVATION AND BE RESPONSIBLE FOR DISRUPTIONS.
2. EXCAVATE TO LINES AND LEVELS INDICATED IN THE CONSTRUCTION SEQUENCE AND DRAWINGS NECESSARY TO PROPERLY COMPLETE THE WORK.
3. CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING. SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT SHORING PLAN AND DETAILS FOR REVIEW.

**CONCRETE NOTES**

1. PROVIDE CONCRETE AND PERFORM WORK TO CSA A23.1-00, TEST CONCRETE TO CSA A23.2-00. THE CONTRACTOR SHALL HAVE COPIES OF THESE STANDARD ON SITE AT ALL TIMES.
  2. CONCRETE PERFORMANCE REQUIREMENTS:
- | TYPE | LOCATION                                   | 28 DAY STRENGTH $f_c'$ (MPa) | CEMENT TYPE | AGGREG. MAX (mm) | MAX SLUMP (mm) | TOTAL AIR % | MAX W/C RATIO | EXPOSURE CLASS |
|------|--|------------------------------|-------------|------------------|----------------|-------------|---------------|----------------|
| 1)   | CONCRETE IN CONTACT W/SOIL                 | 35                           | 50          | 20               | 80             | 4-7         | 0.40          | S-1            |
| 2)   | STRUCTURAL CONCRETE NOT IN CONTACT W/ SOIL | 35                           | 10          | 20               | 80             | 4-7         | 0.40          | N              |
| 3)   | MISCELLANEOUS                              | 35                           | 10          | 20               | 80             | 4-7         | 0.40          | N              |
| 4)   | LEAN MIX FILL                              | 10                           | 50          | 20               | 100            | N/A         | 0.55          | -              |

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.
4. ALL CONCRETE SHALL BE NORMAL WEIGHT 2400 KG/CUBIC METER UNLESS NOTED.
5. GROUT: NON-SHRINK, NON-METALLIC WITH MINIMUM STRENGTH 35MPa AT 28 DAYS.
6. VOID FORMS: PROVIDE VOID FORMS UNDER SLABS, GRADE BEAMS, WALLS AND PILE CAPS AS SHOWN ON DRAWINGS, TO ACCOMMODATE FOR 200mm SOIL SWELLING, AS PER GEOTECHNICAL INFORMATION.
7. FORMWORK AND FALSEWORK DESIGN SHALL BE COMPLETED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. SUBMIT TO CONTRACT ADMINISTRATOR FOR REVIEW.
8. PROVIDE 20mm CHAMFER ON ALL EXPOSED CONCRETE CORNERS.

**PRECAST CONCRETE NOTES**

1. DESIGN, FABRICATION AND ERECTION TO CSA A23.4 AND PCI DESIGN HANDBOOK. DESIGN LOADS AS SHOWN ON DRAWINGS.
2. THE MANUFACTURER OF PRECAST CONCRETE UNITS SHALL BE CERTIFIED IN ACCORDANCE WITH CSA A251.
3. GROUT FOR HOLLOW CORE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 35 MPa.
4. PRESTRESSING TENDONS SHALL CONFORM TO CSA G279.

**REINFORCING STEEL NOTES**

1. DEFORMED BARS CONFORMING TO CSA-G30.18 GRADE 400 PLAIN FINISH.
2. REINFORCING WORK SHALL BE IN ACCORDANCE WITH CSA-23.1-00 AND CSA-23.3.
3. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL OF STANDARD PRACTICE.

**MASONRY NOTES**

1. ALL MASONRY WORK SHALL CONFORM TO CSA S304.1, A371 AND TO DETAILS SHOWN ON DRAWINGS.
2. MASONRY BLOCK UNITS SHALL CONFORM TO CSA A165. CLASSIFICATION H/15/C/M (TO BE CHECKED WITH ARCH) WITH A MINIMUM UNIT STRENGTH OF 15 MPa, UNLESS NOTED OTHERWISE.
3. ALL MORTAR SHALL CONFORM TO CSA A179 AND SHALL BE TYPE 'S' MORTAR WITH MINIMUM STRENGTH OF 12 MPa AT 28 DAYS.
4. ALL LINTELS, BOND BEAMS, AND PILASTERS SHALL BE FILLED WITH CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa AND REINFORCED AS SHOWN.
5. PROVIDE DOWELS FROM CONCRETE BEAMS OR WALLS TO MATCH MASONRY REINFORCING.
6. HORIZONTAL JOINT REINFORCING SHALL CONFORM TO CSA A371 AND ASTM A82 AND SHALL BE INSTALLED AT EVERY SECOND JOINT AND SHALL BE A.S.W.G. NO. 9 TRUSS TYPE WIRE REINFORCING WITH DEFORMATIONS, SPLICES LAPPED MINIMUM 200mm AND STAGGERED MINIMUM 800mm FROM COURSE TO COURSE.
7. CONNECTORS SHALL CONFORM TO CSA A370 AND CSA S304.1; SLOTTED BLOCK TIE TYPE 1 C/W INSULATION CLIP BY FERRO CORP.
8. GROUTING OF CORES TO BE 25 MPa.

**STEEL DECKING NOTES**

1. DESIGN, FABRICATE AND INSTALL STEEL DECK TO CSA-S136 AND THE CANADIAN SHEET BUILDING INSTITUTE STANDARDS.
2. DECKING PROFILE: 38mm DEEP, MINIMUM 0.76mm (22Ga).
3. WELD DECK TO SUPPORTING STEEL WITH 20mm DIAMETER INFUSION WELDS USING WELD WASHERS WHERE NECESSARY; TRANSVERSE, LONGITUDINAL, AND PERIMETER WELDS @ 300 o/c. SIDE LAPS FASTENED BY BUTTON PUNCHING @ 600 o/c.

**ALUMINUM FABRICATIONS**

1. DESIGN, FABRICATION AND INSTALLATION IN ACCORDANCE WITH CSA S157.
2. PERFORM WELDING OF ALUMINUM IN ACCORDANCE WITH REQUIREMENTS OF CSA W59.2.
3. STRUCTURAL ALUMINUM: CONFORMING TO ALUMINUM ASSOCIATION ALLOY AND TEMPER DESIGNATION 6061-T6 OR 6351-T6.
4. ALUMINUM GRATING: STYLE 30-102M AS MAUFACTURED BY FISHER & LUDLOW, ALLOY 6063-T6 FOR BEARING BARS AND ALLOY 6063-T5 FOR CROSS BARS.
5. BOLTS AND ANCHOR BOLTS: CONFORMING TO STAINLESS STEEL C/W ISOLATION WASHERS.
6. BITUMINOUS PAINT: MPI (MASTER PAINT INSTITUTE) EXT. 5.5D, WITHOUT THINNER.
7. ISOLATE ALUMINUM FROM FOLLOWING COMPONENTS, BY MEANS OF BITUMINOUS PAINT:
  - 1) DISSIMILAR METALS EXCEPT STAINLESS STEEL, ZINC, OR WHITE BRONZE OF SMALL AREA.
  - 2) CONCRETE, MORTAR AND MASONRY.

**STEEL FABRICATIONS**

1. FABRICATE AND ERECT STRUCTURAL STEEL TO CSA-S16.1.
2. STRUCTURAL STEEL WIDE FLANGE SECTIONS: CONFORMING TO CSA G40.21, TYPE W WITH MINIMUM YIELD STRENGTH OF 350 MPa.
3. MISCELLANEOUS STEEL: TO CAN/CSA G40.21; TYPE W WITH A MINIMUM YIELD STRENGTH OF 300 MPa.
4. HOLLOW STRUCTURAL SECTIONS: CONFORMING TO CSA G40.21, TYPE W, MINIMUM YIELD STRENGTH OF 350 MPa, CLASS C.
5. WELDING MATERIALS: CONFORMING TO CSA W59. BY FABRICATORS CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIRMENTS OF CSA-W47.1, DIVISION 2.
6. GALVANIZING CONFORMING TO CSA G164.
7. CLEAN ALL STEEL PRIOR TO PRIMING TO SSPC SURFACE PREPARATION SPECIFICATION NO. 7 "BRUSH-OFF BLAST CLEANING".
8. PRIME STEEL SURFACES WITH ONE COAT OF PRIMER TO CISC/CPMA 2-75.

**STANDARD ABBREVIATIONS:**

ADDITIONAL AT ANCHOR BOLT ALTERNATE ALUMINUM APPROXIMATE ARCHITECTURAL AVERAGE BALANCE BOTTOM BOTTOM LOWER LAYER BOTTOM UPPER LAYER BETWEEN BUILDING BENCH MARK BEARING BY (Between dims) CLEAR COVER CENTERLINE CENTER TO CENTER CAST IN PLACE CONSTRUCTION JOINT CONCRETE MASONRY UNIT COMPLETE WITH CATCH BASIN CIRCULAR CORRUGATED METAL PIPE COLUMN CONCRETE CONSTRUCTION CONTINUOUS CONCRETE PIPE DIMENSION DEAD LOAD DOWN DRAWING DOWEL DIAMETER DEGREE EACH FACE EACH END EACH SIDE EXPANSION JOINT EACH WAY ELECTRICAL ELEVATION EQUAL EQUAL SPACE EXCAVATION EXISTING EXPANSION EXTERIOR FAR SIDE FACE TO FACE FACE OF CONCRETE FOUNDATION FOOTING FULL TENSION SPLICE GRID LINE GALVANIZE GAUGE GRANULAR BASE GRANULAR BACK FILL GUARD RAIL GRANULAR GRAVEL HANGER HORIZONTAL HOLLOWCORE	ADDL A. BOLT ALTER. ALUM APPROX ARCH BAL BOT BLL BUL BETW BLDG B.M. BRG CL. C. C/C C.I.P. C.J. C.M.U C/W C.B. CIRC C.M.P. COL CONC CONSTR CONT C.P. DIM D.L. DN. DWG DWL DIA E.F. E.E. E.S. E.J. E.W. ELECT EL. EQ EQ SP EXC EXIST EXP EXT F.S. F/F F.O.C. FDN FTG F.T.S. G GALV GA G.B. GBFL. G.R. GRAN. GR. HGR HORIZ H/C	HOLLOW STRUCTURAL STEEL HEIGHT INSIDE FACE INSIDE DIAMETER INSULATION INTERIOR JUNCTION KILONEWTON LOCATION LONG LONG LEG HORIZONTAL LONG LEG VERTICAL LIVE LOAD LONGITUDE MATERIAL MAXIMUM MECHANICAL MEZZANINE MINIMUM MISCELLANEOUS MARK MILLIMETER METER NEAR SIDE NELSON STUD NUMBER NOT TO SCALE ON CENTER OUTSIDE FACE OUT TO OUT OUTSIDE DIAMETER OPENING OPPOSITE ORIGINAL OPEN WEB STEEL JOIST PERIMETER PERPENDICULAR PLATE PRECAST PRELIMINARY PROJECTION RADIUS REINFORCE WITH REINFORCING REQUIRED REVISION POOF DRAIN RETAINING WALL SECTION SHEET SIMILAR SKETCH SPECIFICATION STAINLESS STEEL STANDARD STIFFENER STIRRUP STRUCTURAL SYMMETRICAL TOP LOWER LAYER TOP OF TOP UPPER LAYER TANGENT TYPICAL UNLESS NOTED OTHERWISE UNDERSIDE VERTICAL WIND LOAD WORK POINT	HSS HT I.F. I.D. INSUL INT JCT KN L.C'N L.G. LLL LLV L.L. LONG MATL MAX MECH MEZZ MIN MISC MK. mm M N.S. N.STUD No. N.T.S. o/c (lower cose) O.F. O/O O.D. OPNG OPP ORIG OWSJ PERIM PERP PL P/C PRELIM. PROJ R or RAD R/W REINF REQD REV. R.D. R.W. SECT. SHT SIM SK. SPEC S.S. STD STIFF STIRR STRUCT SYM TLL T.O. TUL TAN TYP U/N U/S VERT W.L. W.P.
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B.M. ELEV.					
00	ISSUED FOR TENDER	06/08/28	KK		
NO.	REVISIONS	DATE	BY	DATE	DATE
				2006/06/16	2006/08/30



DESIGNED BY	AP	CHECKED BY	MK
DRAWN BY	KK	APPROVED BY	AHL
SCALE:	AS SHOWN	RELEASED FOR CONSTRUCTION BY:	R. SOROKOWSKI

ENGINEER'S SEAL		
ORIGINAL SIGNED BY	A. POCHANART	CITY FILE NUMBER
	2006/08/30	SHEET OF
CONSULTANT DRAWING NO.	WG-S0001	CITY DRAWING NUMBER
		1-0601G-A-S0001-001-000