A1 SIZE – 594mm x 841mm

GENERAL NOTES

1. THE OWNER IS THE CITY OF WINNIPEG OR A DESIGNATED REPRESENTATIVE
2. THE PROJECT LOCATION IS SOUTH END WATER POLLUTION CONTROL CENTRE, AT 100 ED SPENCER DRIVE, WINNIPEG, MANITOBA, CANADA, R2N 4G3
3. HEADINGS WITHIN GENERAL NOTES ARE FOR CONVENIENCE ONLY; THEY DO NOT NECESSARILY DEMARK SCOPE OF WORK FOR TRADES AND SUB–TRADES. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE WORK
4. DRAWINGS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE BY THE OWNER FOR A SPECIFIC PROJECT, AND SHALL NOT BE USED BY A THIRD PARTY WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER, ANY USE OF THESE DRAWINGS, OR ANY RELIANCE, OR ANY DECISIONS BY A THIRD PARTY BASED ON THEIR USE OF THESE DRAWINGS IS THE RESPONSIBILITY OF THE THIRD PARTY. THE OWNER ACCEPTS NO RESPONSIBILITY FOR DAMAGES SUFFERED BY A THIRD PARTY BASED ON THEIR USE OF THESE DRAWINGS
5. ANY ALTERATIONS TO THE STRUCTURE MUST BE UNDERTAKEN BY A QUALIFIED PERSON, FULLY COGNISENT OF ALL MATTERS RELATING TO THE DESIGN
6. BY COMMENCING THE WORK, THE CONTRACTOR IS PURPORTING THAT: THE CONTRACTOR AND THE SUB–TRADES ARE EXPERTS IN THE TYPE OF WORK INVOLVED, THAT THE CONTRACTOR AND THE SUBTRADES HAVE VISITED THE SITE, AND THAT THE CONTRACTOR AND THE SUBTRADES ARE FULLY AWARE OF THE EXTENT AND SCOPE OF THE WORK INVOLVED.
7. THE BEST CONSTRUCTION PRACTICES, WORK AND/OR MATERIALS SHALL BE USED
8. REFERENCE OR COMPLIANCE WITH A STANDARD SHALL MEAN REFERENCE TO THE CURRENT EDITION OF THAT STANDARD AS WELL AS SUPPLEMENTS AND ALL DOCUMENTS REFERENCED THEREIN UNLESS REFERENCE TO A SPECIFIC DOCUMENT EDITION IS MADE
9. WORK AND LOADINGS SHALL BE IN COMPLANCE WITH THE NATIONAL BUILDING CODE OF CANADA 2010 (NBCC) AND AS REVISED BY 'THE MANITOBA BUILDINGS AND MOBILE HOMES ACT (C.C.S.M c. B93), MR 118/214, REGULATION 31/2011' AS AMENDED, THIS MODIFIED DOCUMENT IS THE MBC.
10. ELEVATIONS AND DIMENSIONS SHOWN ARE METRIC AND GEODETIC. DIMENSION UNITS NOT SPECIFIED SHALL BE ASSUMED TO BE MILLIMETRES
11. DRAWINGS AND SECTIONS ARE, IN PART, DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE INTENT OF THE WORK AND APPROXIMATE LOCATION, ARRANGEMENT, AND SIZES OF STRUCTURE. OBTAIN MORE ACCURATE INFORMATION, AS REQUIRED, AND BECOME FAMILIAR WITH JOB SITE CONDITIONS PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE WORK OF ALL TRADES
12. REVISION 'BALLOONS' ARE FOR CONTRACTOR CONVENIENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALL CHANGES TO THE DOCUMENTS
13. DO NOT SCALE DRAWINGS
14. MODIFICATIONS, ALTERATIONS OR SUBSTITUTIONS MUST BE AUTHORIZED IN WRITING BY THE CONTRACT ADMINISTRATOR (CA).
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL TEMPORARY WORK, INCLUDING SHORING, EXCAVATIONS, FORMWORK AND BRACING
16. CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY, INSTALLATION AND COORDINATION OF ALL MATERIALS AND WORK SHOWN IN THE CONSTRUCTION DOCUMENTS

CONSTRUCTION AND SAFETY

1. PROVIDE WORKER PROTECTION IN ACCORDANCE WITH GOOD PRACTICE
2. PROVIDE PROPER PERSONAL PROTECTIVE EQUIPMENT AS REQ'D
3. THE DRAWINGS SHOW THE COMPLETED STRUCTURAL SYSTEM; THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND AROUND THE JOB SITE
4. THE CONTRACTOR SHALL COMPLY WITH ALL HEALTH AND SAFETY REQUIREMENTS AND REGULATIONS FOR THE PROVINCE IN WHICH THE WORK IS LOCATED, AND THE 'CANADA OCCUPATIONAL HEALTH AND SAFETY REGULATIONS' (SOR/86–304)
5. CONFORM TO HEALTH CANADA'S 'WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM' (WHMIS). HAVE COPIES OF MSDS INFORMATION FOR MATERIALS USED FOR THIS PORTION OF THE WORK
6. HAVE MSDS DATA SHEETS FOR ALL HAZARDOUS MATERIALS USED FOR THE WORK
7. CONFORM TO SITE SPECIFIC SAFETY REQUIREMENTS WHICH EXCEED THOSE LISTED ABOVE
8. ALL CONTRACTORS SHALL BE KNOWLEDGEABLE, SKILLED AND TRAINED FOR UNDERTAKING WORK AT HEIGHTS AND IN CONFINED SPACE. THE CONTRACTOR SHALL FURNISH, TO THE CA, A DETAILED PLAN OUTLINING THE SAFETY PROCEDURES INCLUDING DETAILED EMERGENCY RESCUE PROCEDURES.

ABBREVIATIONS

THE DRAWING(S) CONTAIN COMMON ABBREVIATIONS. IT IS THE CONTRACTORS' RESPONSIBILITY TO CORRECTLY DETERMINE THE MEANING OF THE ABBREVIATION USED (CLARIFY WITH CA AS REQ'D). WHERE MULTIPLE DEFINITIONS ARE GIVEN THE MEANING OF THE ABBREVIATION SHALL BE DETERMINED FROM THE CONTEXT OF THE USAGE

DESIGN LOAD INFORMATION

1. STRUCTURES SHALL BE DESIGNED FOR LOADINGS STIPULATED BY FM GLOBAL
2. THE STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH PART 4 OF THE MBC
3. STIPULATED LOADING SHALL BE SERVICE LIVE LOADING U/N
4. THE IMPORTANCE CATEGORY IS POST DISASTER.
5. ASSUMED DESIGN SNOW AND WIND LOADS HAVE A RETURN PERIOD OF 1/50 YEARS
6. EXPECTED DESIGN LIFE OF STRUCTURE(S): 50 YEARS MIN
7. STRUCTURE(S) SHALL BE DESIGNED FOR LOADING NOTED IN COMBINATIONS STIPULATED IN THE MBC AND UNBALANCED SNOW AND WIND LOADINGS INCLUDING AREAS WITH LOCAL INCREASED DESIGN PRESSURES SHALL BE INCLUDED. LOADS SHALL BE ARRANGED TO PROVIDE THE GREATEST MAXIMUM EFFECT ON ALL FRAME MEMBERS.
8. WIND LOADING
   - WIND PRESSURE COEFFICIENT FOR PRESSURES SHALL BE 1.3 BASED ON FULL EXPOSURE
   - GUST FACTOR FOR OVERALL STRUCTURE SHALL BE 2.0. GUST FACTOR FOR INDIVIDUAL ELEMENTS SHALL BE 2.5
9. ICE LOADING
   - DENSITY OF ICE FOR DESIGN SHALL BE 900 KG/M3 MIN
   - DESIGN ICE THICKNESS SHALL BE 20mm
10. DUCT VAULT SERVICE LOADS

PULL PIT LOADING

AREA USE	LL (KPA U/N)	DL* (KPA U/N)	SUPER DL (KPA U/N)	SUPER LL (KPA U/N)
FLOOR				
UDL	4.8			
AND	2.5 KN OVER AN AREA OF 500mm x 500mm U/N			
ROOF				
UDL	SNOW LOAD	SOIL (ABOVE)		12.0 (AT GRADE)
AND	RAIN LOAD			AASHTO H10
WALLS (LATERAL LOADING FROM)				
UDL		SOIL (ABOVE)		2.4 (AT GRADE)
AND				AASHTO H10

* PLUS SELF WEIGHT AND MATERIALS OF CONSTRUCTION

DUCT VAULT WALLS SHALL BE DESIGNED IN ACCORD WITH MBC FOR LATERAL SOIL PRESSURE PLUS THE EFFECT OF SURFACE LOADING

11. DUCT BANK SERVICE LOADS AREA

USE	LL (KPA U/N)	DL* (KPA U/N)	SUPER DL (KPA U/N)	SUPER LL (KPA U/N)
TOP				
UDL	2.4	SOIL ABOVE		2.4 (AT GRADE)
AND				AASHTO H10
CONDUCTOR (TOTAL)		25 KG/M		
SIDES (LATERAL LOADING FROM)				
UDL		SOIL ABOVE		2.4 (AT GRADE)
AND				AASHTO H10

* PLUS SELF WEIGHT AND MATERIALS OF CONSTRUCTION

12. A–FRAME DESIGN
   - A–FRAME TO BE PROVIDED BY SLACAN INDUSTRIES INC. OR AN APPD ALT. DRAWINGS SHALL BEAR AN ENGINEERING SEAL AND A C OF A SEAL AND C OF A FOR THE PROVINCE IN WHICH THE PROJECT IS LOCATED
   - EQUIPMENT SHALL BE DESIGNED TO PROVIDE CONTINUOUS LONG TERM SERVICE
   - PROVIDE LIFTING LUGS, ETC. TO SAFELY INSTALL A–FRAME. PROVIDE CADWELD CONNECTORS, GROUNDING LUGS OR PADS AS REQUIRED TO MAINTAIN ELECTRICAL CONTINUITY WITH GROUNDING GRID
   - A–FRAME TO BE DESIGNED IN ACCORDANCE WITH CSA STD S16 FOR ALL LOADINGS PRESCRIBED BY THE MBC. THIS INCLUDES DEAD AND LIVE LOADING, WIND LOADING, ICE LOADING AND SEISMIC LOADING AS REQ'D
   - A–FRAME TO BE DESIGNED FOR ICE LOADING STIPULATED IN THE CONSTRUCTION DOCUMENTS. LOADING TO BE CONSIDERED AS LIVE LOADING
   - A–FRAME TO BE DESIGNED FOR ALL ELECTRICAL EQUIPMENT STIPULATED IN THE CONSTRUCTION DOCUMENTS OR ON MATERIAL DATA SHEETS. LOADING TO BE CONSIDERED AS LIVE LOADING
   - WHERE ELECTRICAL EQUIPMENT WEIGHTS ARE SHOWN, CONTRACTOR SHALL VERIFY ALL LOADS PRIOR TO FABRICATION
   - A–FRAME SUPPLIER SHALL VERIFY LOCATIONS OF ALL EQUIPMENT AND FASTENERS. IF REQD EQUIPMENT IS NOT SHOWN IN THE CONSTRUCTION DOCUMENTS, SUPPLIER SHALL ADVISE CONTRACT ADMINISTRATOR
   - PROVIDE FASTENERS THAT WILL NOT PROMOTE GALVANIC CORROSION
13. STRUCTURE SHALL BE DESIGNED FOR LOADING NOTED ABOVE IN COMBINATIONS STIPULATED IN THE MBC AND UNBALANCED SNOW AND WIND LOADINGS INCLUDING AREAS WITH LOCAL INCREASED DESIGN PRESSURES SHALL BE INCLUDED. LOADS SHALL BE ARRANGED TO PROVIDE THE GREATEST MAXIMUM EFFECT ON ALL FRAME MEMBERS
14. THE CONTRACTOR SHALL VERIFY THAT BEARING SURFACES FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT ARE TRUE AND LEVEL PRIOR TO INSTALLING EQUIPMENT
15. CLIMATIC INFORMATION FROM MBC (KPA):

Ss (GSL)	1.9 (WINNIPEG, MANITOBA)
Sr (RAIN LOAD)	0.2
WIND PRESSURE (1/10)	0.35
WIND PRESSURE (1/50)	0.45

SEISMIC INFORMATION FROM MBC:

Sa(0.2)	0.000
Sa(0.5)	0.057
Sa(1.0)	0.026
Sa(2.0)	0.006
PGA	0.036

16. SOIL DESIGN PARAMETERS: REFER TO GEOTECHNICAL REPORT

SHOP DRAWINGS

1. REFER TO GENERAL NOTES FOR PARTS OF THE WORK THAT REQUIRE SHOP DRAWINGS.
2. SHOP DRAWINGS SHALL BEAR THE SEAL OF AN ENGINEER, REGISTERED IN THE PROVINCE OF THE WORK, WHO WILL BE RESPONSIBLE FOR THE DESIGN OF ELEMENTS AND CONNECTIONS
3. SUBMIT SHOP DRAWINGS WELL IN ADVANCE OF DELIVERY
4. SUBMIT SHOP DRAWINGS TO THE CA
5. SHOP DRAWINGS SHALL SHOW ALL MATERIALS AND DESIGN, FABRICATION, CONSTRUCTION, FASTENING, AND FINISHING DETAILS AS REQ'D
6. SHOP DRAWINGS SHALL IDENTIFY ALL VARIATIONS FROM THE CONSTRUCTION DOCUMENTS
7. THE CONTRACTOR SHALL SUBMIT 1 SET OF SHOP DRAWINGS IN DIGITAL FORMAT PRIOR TO FABRICATION FOR THE CA REVIEW. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING WORK U/N:
   –REINFORCING STEEL
   –PRECAST CONCRETE ELEMENTS
   –REINFORCING FOR CABLE DUCT BANKS
   –STRUCTURAL STEEL FOR 'A–FRAME STRUCTURE'
   –CHAINLINK FENCING
8. PRIOR TO THE CA REVIEW, SHOP DRAWINGS MUST BE REVIEWED AND COORDINATED BY THE CONTRACTOR. THEY MUST BEAR A REVIEW STAMP, DATE AND SIGNATURE SIGNIFYING THE CONTRACTOR'S ACKNOWLEDGEMENT THAT THE CONTRACTOR'S RESPONSIBILITIES INCLUDE:
   –DIMENSIONS WHICH SHALL BE CONFIRMED AND COORDINATED WITH JOB SITE CONDITIONS,
   –INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES, MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION,
   –SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK,
   –COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES
   –SATISFACTORY PERFORMANCE OF THE WORK
9. SHOP DRAWINGS NOT BEARING A REVIEW STAMP IN ACCORDANCE WITH THE ABOVE WILL BE RETURNED
10. SHOP DRAWING REVIEW BY THE CA IS ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE INFORMATION GIVEN IN THE CONSTRUCTION DOCUMENTS. REVIEW IS NOT CONDUCTED FOR THE PURPOSE OF DETERMINING THE ACCURACY OR COMPLETENESS SUCH AS DIMENSIONS OR QUANTITIES

FIELD ENGINEERING

FIELD ENGINEERING SERVICES TO LOCATE THE WORK WITH RESPECT TO HOR AND VERT CONTROL POINTS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS AND DETAILS OF EXISTING CONSTRUCTION PRIOR TO COMMENCING THE WORK

EXISTING SERVICES

KNOWN UNDERGROUND SERVICES ARE SHOWN ON THE SITE PLAN OR THE SITE SERVICING PLAN. NO GUARANTEE OF THE ACCURACY IS PROVIDED BY THE CA. THE CONTRACTOR IS REQUIRED TO CONTACT SERVICE UTILITIES AND DETERMINE THE LOCATION OF EXIST SERVICES. WHERE UNKNOWN SERVICES ARE ENCOUNTERED, IMMEDIATELY ADVISE THE CA. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING SERVICES BY HYDROVAC IF NECESSARY AND BE RESPONSIBLE FOR DISRUPTIONS. ALL EXISTING CONSTRUCTION ALTERED OR DAMAGED DURING THE EXECUTION OF THIS WORK SHALL BE MADE GOOD

SITE PLAN AND SURVEY

1. SITE INFORMATION PROVIDED ON THE DWG HAS BEEN TAKEN FROM INFORMATION RECEIVED FROM OTHERS. THE CONTRACTOR SHALL VERIFY THE SITE PLAN INFORMATION PRIOR TO CONSTRUCTION AND ADVISE THE CA OF ALL DISCREPANCIES

FILL MATERIALS:

1. WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE FOLLOWING STANDARDS/SPECIFICATIONS:
   –SPDD TO ASTM SPEC D698
   –MPDD TO ASTM SPEC D1557
   –SEIVE ANALYSIS TO ASTM SPEC C136
   –SEIVE SIZES TO CAN/CGSB–8.1
   –GRADATION TO ASTM SPEC D5519 AS NOTED BELOW
2. 25mm CRUSHED STONE (BACKFILL DRAINAGE LAYER)
   CLEAN, WASHED, ANGULAR CRUSHER RUN MATERIAL CONSISTING OF HARD DURABLE PARTICLES FREE FROM SILT, CLAY AND SILT LUMPS, FRIABLE MATERIALS, CEMENTATION, SOLUBLE MATERIALS, FROZEN MATERIALS AND ORGANIC MATTER

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
25	100
20	40–100
15	20–60
9.5	10–30
4.75	0–20
1.18	0–5
425UM	0–2

3. FIRE QUENCHING STONE (ALBARRIE CONTAINMENT SYSTEM)
   STONE SHALL BE BASALT, LIMESTONE OR GRANITE. WELL–GRADED, WASHED, CRUSHED ROCK COMPOSED OF HARD DURABLE UNCOATED FRAGMENTS WITH 100% FRACTURED SURFACES PRODUCED FROM ROCK FORMATIONS OR BOULDERS OF UNIFORM QUALITY. MINIMUM VOID RATIO TO BE 30%

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
75	100
37.5	0–2
19	0–1

4. INSULATING STONE (NON–CONDUCTIVE GRANITE OR LIMESTONE)
   CRUSHED AND WASHED ROCK COMPOSED OF HARD DURABLE UNCOATED FRACTURED FRAGMENTS PRODUCED FROM ROCK FORMATIONS OR BOULDERS OF UNIFORM QUALITY, OR A MIXTURE OF CRUSHED GRAVEL FREE FROM SILT, CLAY AND SILT LUMPS, FRIABLE MATERIALS, CEMENTATION, SOLUBLE MATERIALS, FROZEN MATERIALS, AND ORGANIC MATTER, HAVING A CRUSH COUNT OF 100%, AND HAVING A WET SURFACE RESISTIVITY OF 3000 OHM–M MIN IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE. LA ABRASION LOSS SHALL NOT EXCEED 30%

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
37.5	100
19	2

5. NATIVE SOIL (BACKFILL)
   EXCAVATED PERVIOUS SOIL, FREE FROM ROOTS, ROCKS LARGER THAN 75 AND BUILDING DEBRIS
6. 'PEA GRAVEL' (FOR BACKFILL DRAINAGE LAYER)
   CLEAN, WASHED, ROUNDED AGGREGATE CONSISTING OF HARD DURABLE PARTICLES FREE OF CLAY LUMPS, CEMENTATION, ORGANIC MATERIAL, FROZEN MATERIAL AND OTHER DELETERIOUS MATERIALS

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
9.5	100
4.75	0–10
1.18	0– 2

7. SAND (CLEAN)
   AGGS COMPOSED OF CLEAN, HARD, DURABLE UNCOATED PARTICLES OBTAINED FROM DEPOSITS OF GRAVEL OR SAND, TALUS ROCK, QUARRIED ROCK, IRON BLAST FURNACE OR BLENDED NICKEL SLAG, CLINKERS, OR OTHER SUITABLE GRANULAR MATERIALS

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
9.5	100
4.75	90–100
600UM	25–60
75UM	0–1

8. SAND (CONDUCTOR BEDDING SAND)
   WELL GRADED ANGULAR MATERIAL, CONSISTING OF HARD DURABLE PARTICLES FREE OF CLAY AND SILT LUMPS, CEMENTATION, SOLUBLE MATERIALS, ORGANIC MATERIAL, FRIABLE MATERIAL, FROZEN MATERIAL AND OTHER DELETERIOUS MATERIALS. MATERIAL USED SHOULD HAVE SIMILAR PHYSICAL AND CHEMICAL PROPERTIES AS WELL AS GRADATION. THERMAL RESISTIVITY SHALL BE GREATER THAN 1.2 K–M/W

   FILL SHALL CONFORM TO:

SIEVE SIZE (ASTM)	PERCENT PASSING
6.3	100
2	60–80
425UM	25–40
150UM	8–20
75UM	0–7

9. TYPE 2 FILL
   CRUSHED ROCK COMPOSED OF HARD DURABLE UNCOATED FRACTURED FRAGMENTS PRODUCED FROM ROCK FORMATIONS OR BOULDERS OF UNIFORM QUALITY, OR A MIXTURE OF CRUSHED GRAVEL, SAND AND FINES COMPOSED FROM NATURALLY FORMED DEPOSITS ONFORMING TO THE CITY OF WINNIPEG SPECIFICATIONS FOR AGGREGATE FOR GRANULAR TYPE 2 FILL SHALL CONFORM TO:

SIEVE SIZE (CAN METRIC)	PERCENT PASSING
20000	100
5000	40–70
2500	25–60
315	8–25
80	6–17

FACILITIES SITEWORK (GENERAL)

1. ALL ORGANIC MATERIAL SHALL BE REMOVED FROM THE AREA UNDER CONSIDERATION AND REPLACED WITH COMPACTED TYPE 2 FILL
2. SOIL SURFACE TO BE SCARIFIED FOR 300 MIN BELOW EXISTING GRADE. RE–COMPACT TO 95% MPDD MIN
3. PROOF ROLL ENTIRE SURFACE AREA WITH SUITABLE ROADWAY EQUIPMENT HAVING AN AXLE LOAD OF 255 KN. SOFT AREAS SHALL BE RE–EXCAVATED AND BACKFILLED WITH TYPE 2 FILL COMPACT TO 95% MPDD MIN
4. EXCAVATE AS REQUIRED TO CONSTRUCT AREA UNDER CONSIDERATION
5. THE CONTRACTOR SHALL PROVIDE AN EXCAVATION PLAN UNDER MANITOBA ENGINEERING SEAL TO THE CA FOR APPROVAL PRIOR TO UNDERTAKING ANY EXCAVATION WORK ON SITE
6. SIDE SLOPE EMBANKMENTS TO BE 3:1 (H:V) MAX OR AS STIPULATED BY THE CA. COMPACT TO 95% MPDD MIN
7. BLEND COMPACTED GRANULAR FILL WITH ADJACENT SITEWORK AREAS AS REQUIRED
8. GROUNDING GRID TO BE INSTALLED AS SHOWN IN THE CONSTRUCTION DOCUMENTS

FACILITIES SITEWORK (PAD AREA)

1. EXCAVATE PAD AREA 450mm BELOW FINISHED GRADE U/N.
2. PROVIDE 150mm MIN. TYPE 2 FILL, COMPACT TO 95% MPDD
3. INSTALL GROUNDING GRID AS REQUIRED
4. PROVIDE 150mm MIN. TYPE 2 FILL, COMPACT TO 95% MPDD
5. SLOPE TYPE 2 FILL AS REQ'D
6. PROVIDE 150mm MIN. INSULATING STONE, COMPACT TO 90% MPDD
7. GRADE AND LEVEL INSOLATING STONE TO FINISHED ELEVATION PROVIDED.

FACILITIES SITEWORK (DUCT BANK)

1. EXCAVATE AS REQUIRED TO INSTALL DUCT BANK. BRING DUCT BANK BASE TO FINAL ELEVATION USING 150mm MIN COMPACTED TYPE 2 FILL. COMPACT TO 95% MPDD
2. INSTALL CONCRETE FRICTION PILE
3. INSTALL 200mm VOID FORM
4. CONSTRUCT REINFORCED CONCRETE DUCT BANK
5. BACKFILL SIDES AND TOP OF DUCT BANK WITH 150mm TYPE 2 FILL. COMPACT TO 95% MPDD
6. PROVIDE 150mm TYPE 2 FILL OVER, COMPACT TO 95% MPDD
7. INSTALL GROUNDING GRID AS REQUIRED
8. PROVIDE 150MM MIN. TYPE 2 FILL MIDDLE, COMPACT TO 95% MPDD
9. PROVIDE 150MM MIN. INSULATING STONE, COMPACT TO 90% MPDD

REFERENCE DRAWINGS	DESCRIPTION
1–0102–DDTL–A007–004	AREA CODE INDEMTIFICATION
1–0102–DDTL–A007–002	ABBREVIATIONS AND SYMBOLS
1–0102–DDTL–A007–001	ABBREVIATIONS
1–0102–DDTL–A005–030	COVER SHEET
1–0102–SGAD–Y001	GENERAL NOTES (SHEET 3 OF 3)
1–0102–SGAD–Y001	GENERAL NOTES (SHEET 2 OF 3)
1–0102–SGAD–Y001	GENERAL NOTES (SHEET 1 OF 3)

APEGM Certificate of Authorization
SNC-Lavalin Inc.
No. 4489

NO.	REVISIONS	DATE	DESIGN	CHECK
00	ISSUED FOR CONSTRUCTION – 976–2016	2017/04/05	RC	RC

CH2MHILL. SNC·LAVALIN KGS GROUP

DESIGNED BY: R. COATES	CHECKED BY: R. COATES
DRAWN BY: L. GAO	APPROVED BY: E. RYCZKOWSKI
SCALE: N.T.S.	ISSUED FOR CONSTRUCTION BY: J. SHUMKA
DATE: 2016/01/20	DATE: 2017/04/05
CONSULTANT NO.: 474248	

ENGINEER'S SEAL
PROVINCE OF MANITOBA R.A. COATES Member 3/31/17 REGISTERED PROFESSIONAL ENGINEER

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

SOUTH END WATER POLLUTION CONTROL CENTRE
SEWPCC UPGRADING/EXPANSION PROJECT
STRUCTURAL
66 kV SUBSTATION
GENERAL NOTES (SHEET 1 OF 3)

CITY DRAWING NUMBER	SHEET	REV.	SIZE
1–0102–SGAD–Y001	001	00	A1

LAST SAVE: 2017/03/31 – 2:25pm
PATH: C:\pw_workdir\ch2mhill_wbg\ve006717\d0356742\1–0102–SGAD–Y001–001.dwg

PLOT DATE: Mar 31, 2017 – 2:25pm
FILE NAME:1–0102–SGAD–Y001–001.dwg