DRAWING NUMBER

GENERAL NOTES:

- 1. THE CONTRACTOR'S ENGINEER, APPROPRIATELY QUALIFIED AND REGISTERED IN THE PROVINCE OF MANITOBA, SHALL PROVIDE AN ALTERNATIVE TECHNICAL BASIS (INCLUDING BUT NOT LIMITED TO CALCULATIONS, DRAWINGS, DATA SHEETS, AND SPECIFICATIONS) UNDER SEAL FOR REVIEW BY THE CONTRACT ADMINISTRATOR AND ACCEPTANCE BY THE THE CITY, FOR WORK NOT UNDERTAKEN IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 2. THESE NOTES ARE TO BE READ IN CONJUNCTION WITH OTHER PERTINENT CODES, SPECIFICATIONS, AND CONTRACT DOCUMENTS. IN THE EVENT OF A CONFLICT, THE MOST STRINGENT REQUIREMENT AS DETERMINED BY THE CONTRACT ADMINISTRATOR SHALL GOVERN.
- 3. BY COMMENCING THE WORK, THE CONTRACTOR ASSERTS EXPERTISE IN THE TYPE OF WORK INVOLVED, FAMILIARITY WITH ALL RELEVANT ASPECTS AND CHARACTERISTICS OF THE SITE, AND FULL AWARENESS OF THE EXTENT AND SCOPE OF
- 4. DO NOT SCALE DRAWINGS.
- 5. VERIFY ALL DIMENSIONS SHOWN IN THE CONTRACT DOCUMENTS PRIOR TO COMMENCING CONSTRUCTION.
- 6. VERIFY WEIGHT AND LOCATION OF ALL EQUIPMENT TO BE SUPPORTED AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCING CONSTRUCTION.
- 7. LOCATE UNDERGROUND SERVICES AND PROTECT THEM AT ALL TIMES DURING CONSTRUCTION.
- 8. THE CONTRACTOR SHALL FOLLOW CONSTRUCTION PRACTICE FOR COLD AND HOT WEATHER REQUIREMENTS IN ACCORDANCE WITH THE APPLICABLE MATERIAL STANDARD.
- 9. STRUCTURAL DRAWINGS SHOWING COMPLETED STRUCTURE DO NOT INDICATE COMPONENTS WHICH MAY BE NECESSARY FOR SAFETY DURING CONSTRUCTION.
- 10. THE CONTRACTOR SHALL PROVIDE FOR THE PROTECTION OF THE THE CITY'S PERSONNEL AND PROPERTY DURING CONSTRUCTION. THE METHOD OF PROTECTION MUST BE APPROVED BY THE CONTRACT ADMINISTRATOR
- 11. THE CONTRACTOR SHALL PROVIDE FOR THE PROTECTION OF THE RESIDENTS AND PRIVATE PROPERTY ADJACENT THE SITE, AND SHALL RESTORE ALL ASPECTS OF PRIVATE PROPERTY ALTERED DURING CONSTRUCTION TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE JOB SITE DURING CONSTRUCTION AND SHALL COMPLY WITH ALL PROVINCIAL, FEDERAL, AND SITE-SPECIFIC WORKPLACE, SAFETY, AND HEALTH REGULATIONS.
- 13. THE CONTRACTOR SHALL OBSERVE THE CITY'S REGULATIONS REGARDING FIRE PREVENTION, SAFETY AND SECURITY, AND PROVIDE ADEQUATE BARRICADES AND OTHER PROTECTION DEVICES AS REQUIRED.
- 14. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING TEMPORARY CONSTRUCTION ACCESS FOR THEIR FORCES TO THE NORTH SIDE OF THE SITE VIA THE EXISTING UNIMPROVED ACCESS OFF McCALLUM CRESCENT, AND SHALL RESTORE THE ACCESS ROUTE TO ITS ORIGINAL CONDITION AT THE CONCLUSION OF THE WORK TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
- 15. THE COMPLIANCE OF THE EXISTING STRUCTURE AND IT'S ACCOUTREMENTS WITH ANY CURRENT OR APPLICABLE CODES OR STANDARDS IS NOT WITHIN THE SCOPE OF THIS PROJECT.

SUBMITTALS:

- 1. THE CONTRACTOR SHALL SUBMIT SPECIFIED SHOP DRAWINGS TO THE CONTRACT ADMINISTRATOR FOR REVIEW. ALL SUBMISSIONS MUST BE IN METRIC UNITS. WHERE DATA IS IN IMPERIAL UNITS, THE CORRECT METRIC EQUIVALENT SHALL ALSO BE SHOWN ON ALL SUBMISSIONS FOR REVIEW.
- 2. THE CONTRACTOR SHALL SUBMIT A CONCRETE MIX DESIGN (INCLUDING ADDITIVES AND ADMIXTURES) THAT MEETS THE MINIMUM PERFORMANCE CRITERIA AS INDICATED IN THE CONTRACT DOCUMENTS. THE CONCRETE MIX DESIGN SHALL BE SEALED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA.
- 3. ORIGINAL, PURPOSE-SPECIFIC SHOP DRAWINGS ARE TO BE PREPARED BY THE CONTRACTOR, FABRICATOR, SUBCONTRACTOR, SUPPLIER, DISTRIBUTOR, OR MANUFACTURER, TO ILLUSTRATE THE APPROPRIATE PORTIONS OF THE WORK SHOWING FABRICATION, LAYOUT, SETTING OR ERECTION DETAILS AS SPECIFIED IN APPROPRIATE SECTIONS.
- 4. SHOP DRAWINGS FOR THE FOLLOWING COMPONENTS SHALL BE SEALED, SIGNED AND DATED BY A QUALIFIED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF MANITOBA:
 - REINFORCING STEEL
 - METAL FABRICATIONS III. STRUCTURAL CONNECTION DETAILS (INCLUDING BUT NOT LIMITED TO CONNECTORS, LEDGER ANGLES, WOODEN TRUSS CONNECTIONS TO TOP PLATE AND TOP PLATE ANCHORAGE TO MASONRY WALLS).
 - IV. PREFABRICATED WOODEN TRUSSES.
 - V. METAL ROOF SYSTEM.

SHOP DRAWINGS NOT BEARING AN ENGINEER'S SEAL IN ACCORDANCE WITH THE ABOVE WILL BE RETURNED MARKED 'REJECTED'.

- 5. THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS, PRODUCT DATA AND SAMPLES PRIOR TO SUBMISSION AND STAMP AND SIGN DRAWINGS INDICATING CONFORMANCE TO THE CONTRACT REQUIREMENTS. THE CONTRACTOR SHALL VERIFY
 - FIELD MEASUREMENTS.
 - FIELD CONSTRUCTION CRITERIA. CATALOGUE NUMBERS AND SIMILAR DATA.
 - WEIGHTS AND LOADS.

SHOP DRAWINGS NOT BEARING THE CONTRACTOR'S REVIEW STAMP AND SIGNATURE IN ACCORDANCE WITH THE ABOVE WILL BE RETURNED MARKED 'NOT REVIEWED'.

- 6. TERMS AND CONDITIONS THAT MAY EXIST IN ANY AGREEMENT BETWEEN THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL NOT SUPERSEDE THE TERMS AND CONDITIONS SET FORTH IN THE CONTRACT DOCUMENTS.
- 7. THE CONTRACTOR SHALL COORDINATE EACH SUBMISSION WITH REQUIREMENTS OF WORK AND CONTRACT DOCUMENTS. INDIVIDUAL SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL ALL RELATED DRAWINGS ARE AVAILABLE.
- 8. THE CONTRACTOR'S RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMISSION IS NOT RELIEVED BY THE CONTRACT ADMINISTRATOR REVIEW OF SUBMITTALS.
- 9. NO DELAY OR CLAIMS WILL BE ALLOWED THAT ARISE BECAUSE OF DELAYS IN SUBMISSION, RE-SUBMISSION, AND REVIEW OF SHOP DRAWINGS.

REFERENCE DRAWINGS

DESIGN SPECIFICATIONS:

1. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS AND ADDENDUM OF THE FOLLOWING CODES AND DOCUMENTS, WHICH ARE TO BE USED AND MADE AVAILABLE FOR REFERENCE ON SITE FOR THE DURATION OF THE WORK:

NATIONAL BUILDING CODE OF CANADA CONCRETE CODE CAN/CSA A23.1, A23.2, A23.3 CANADIAN FOUNDATION ENGINEERING MANUAL STEEL CODE CSA S16-01 AND CSA G40.21-350W CAN3-A371 MASONRY CONSTRUCTION FOR BUILDINGS ALL SPECIFICATIONS COMPLETE WITH ADDENDA AND CHANGE ORDERS. DRAWINGS WITH THE LATEST REVISIONS AS THEY OCCUR.

- 2. THIS STRUCTURE IS NOT SUBJECT TO NATIONAL ENERGY CODE FOR BUILDINGS OR MANITOBA ENERGY CODE FOR BUILDINGS REQUIREMENTS (IN ACCORDANCE WITH THE EXEMPTION SPECIFIED FOR SMALL SERVICE BUILDINGS).
- 3. ROOF TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED 1/240 OF SPAN.

DESIGN LOADS:

- 1. FLOOR LIVE LOAD: 4.8 KPA
- 2. ROOF TRUSS BOTTOM CHORD MECHANICAL & ELECTRICAL DL ALLOWANCE = 0.5 KPA ROOF TRUSS LIVE LOAD IN ACCORDANCE WITH NBCC REQUIREMENTS.
- 3. GROUND SNOW LOAD: IS (ULS) = 1.25, SS = 1.9 KPA, SR = 0.2 KPA. (TRUSS AND METAL ROOF AND CONNECTION DESIGNERS TO MODIFY FOR EXPOSURE AND DRIFT AS PER NBCC).
- 4. WIND LOAD: IW (ULS) = 1.25, Q (1/10) = 0.35 KPA, Q (1/50) = 0.45 KPA. (TRUSS, METAL ROOF, AND CONNECTION DESIGNERS TO MODIFY AS PER NBCC, ALLOW FOR 2.0 KPA UPLIFT OR AS REQUIRED BY NBCC IF GREATER).
- 5. GENSET ALLOWANCE: 2730 KG DISTRIBUTED ALONG TWO 3250MM LONG LONGITUDINAL SUPPORT FRAMES SPACED 1220

PILING:

- 1. FOUNDATION HAS BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY SNC-LAVALIN INC. FOR PROJECT NO. 644548, DATED JUNE 19, 2017.
- 2. PILING SHALL BE INSTALLED BY APPROPRIATELY QUALIFIED AND EXPERIENCED PERSONNEL. ACCURATE LOG RECORDS SHALL BE KEPT BY THE PILING CONTRACTOR, INCLUDING A RECORD OF ALL PROBLEMS ENCOUNTERED DURING DRILLING. THE PILING CONTRACTOR'S GEOTECHNICAL ENGINEER SHALL CERTIFY UNDER SEAL THAT PILING INSTALLATION WAS COMPLETED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 3. BORED EXCAVATIONS SHALL BE MADE WITH EQUIPMENT DESIGNED TO REMOVE A CORE AND PROVIDE SHAFTS WITH THE REQUIRED DIAMETERS AND DEPTHS SHOWN ON THE DRAWINGS.
- 4. THE CONTRACTOR SHALL REMOVE THE EXCAVATED MATERIAL FROM THE SITE AND DISPOSE OF IT IN AN APPROVED MANNER.
- 5. STEEL SLEEVING SHALL BE USED TO TEMPORARILY LINE THE SHAFTS TO PREVENT BULGING OR CAVING OF THE WALLS PRIOR TO CONCRETE PLACEMENT AS REQUIRED. THE SLEEVING SHALL BE DESIGNED AND CONSTRUCTED TO RESIST ALL FORCES WHICH MAY TEND TO DISTORT IT. THE SLEEVING SHALL BE WITHDRAWN AS THE CONCRETE IS PLACED IN THE SHAFT. THE SLEEVING SHALL EXTEND AT LEAST 3 FT BELOW THE TOP OF THE FRESHLY DEPOSITED CONCRETE AT ALL
- 6. SHAFTS SHALL BE FREE OF WATER PRIOR TO PLACING OF CONCRETE. CONCRETE SHALL NOT BE PLACED IN OR
- 7. CONCRETE SHALL NOT HAVE A FREE FALL OF MORE THAN 1.5M AND SHALL BE PLACED SO THAT THE AGGREGATES DO NOT SEPARATE OR SEGREGATE.
- 8. PILE REINFORCING SHALL EXTEND THE FULL LENGTH OF THE PILE. THE FULL LENGTH OF ALL SHAFTS SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
- 9. SHAFT RESISTANCE VALUES:

DEPTH (MBGL)	ULS (KPA)	SLS (COMP.) (KPA)	SLS (TENS. (KPA)
0 TO 2.5	0	0	0
2.5 TO 8.5	35	14	11
85 TO 95	125	50	38

CAST-IN-PLACE CONCRETE:

- 1. ALL CONCRETE TO BE MIXED, PLACED, AND TESTED ACCORDING TO CSA A23.1 AND CSA A23.2.
- 2. CONCRETE: COMPRESSIVE STRENGTH = 35 MPA AT 28 DAYS, SLUMP = 80 + / 20 MM, MAXIMUM AGGREGATE SIZE = 20 MM, ENTRAINED AIR = 5 + / - 1%, CEMENT = HS OR HSB SULPHATE RESISTANT.
- 3. INSTALL CETCO WATERSTOP 25 x 20mm RX-101 AT EXTERIOR CONSTRUCTION JOINTS AND PENETRATIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. CETCO CETSEAL SHALL BE USED PRIOR TO POUR TO SECURE THE WATERSTOP IN POSITION AND MAINTAIN A MINIMUM OF 75mm CLEAR CONCRETE COVER.
- 4. ADVISE THE CONTRACT ADMINISTRATOR AT LEAST 48 HOURS IN ADVANCE OF CONCRETE POUR.
- 5. SLABS TO HAVE MINIMUM 2% SLOPE TOWARDS DRAINS UNLESS NOTED OTHERWISE. REFER TO BUILDING AND MECHANICAL DRAWINGS IF NOT INDICATED ON STRUCTURAL SET.
- 6. FORMS SHALL NOT BE STRIPPED UNTIL 75% OF THE SPECIFIED CONCRETE STRENGTH HAS BEEN REACHED.

ACCESSORIES EMBEDDED IN CONCRETE:

- 1. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, LOCATING AND PLACING ALL PLATES, ANCHOR BOLTS, INSERTS, DOWELS, SLEEVES AND OPENINGS. COORDINATE ACCESSORY PLACEMENT REQUIREMENTS WITH THE SHOP DRAWINGS.
- 2. ANCHOR BOLTS, INSERTS, SLEEVES DOWELS, ETC. SHALL BE SECURED IN POSITION BY MEANS OF TEMPLATES BEFORE CONCRETE IS PLACED.

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

NO. REVISIONS

					SNC·LAVALIN	SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL
					DESIGNED BY: T. DEGER	CHECKED BY: B. CLEVEN	PRELIMINAR'
					DRAWN BY: B. DICKSON	APPROVED BY: B. CLEVEN	NOT TO BE USED FOR
					SCALE: N.T.S.	ISSUED FOR CONSTRUCTION BY:	CONSTRUCTION
	LOCUED FOR TEMPER BIR ARR AZA AZA	0047 07 05			DATE: 2017-06-16	DATE:	
00	ISSUED FOR TENDER, BID OPP. 639-2017	2017-07-25	TD	BJC	CONSULTANT NO.:		

DATE DESIGN CHECK

	Winnipeg	ASTE DEPARTMENT			
PRELIMINARY NOT TO BE USED FOR CONSTRUCTION	COMMUNITY R	OW WASTEWATER F 2017 UPGRADES NOTES — SHEET		TATION	
	CITY DRAWING NUMBER	?	SHEET	REV.	
	1-0130L-	-S0001	001	00	

SHEET | REV. | SIZE 001 | 00 | A1

THE CITY OF WINNIPEG

1-0130L-S0001.dwg