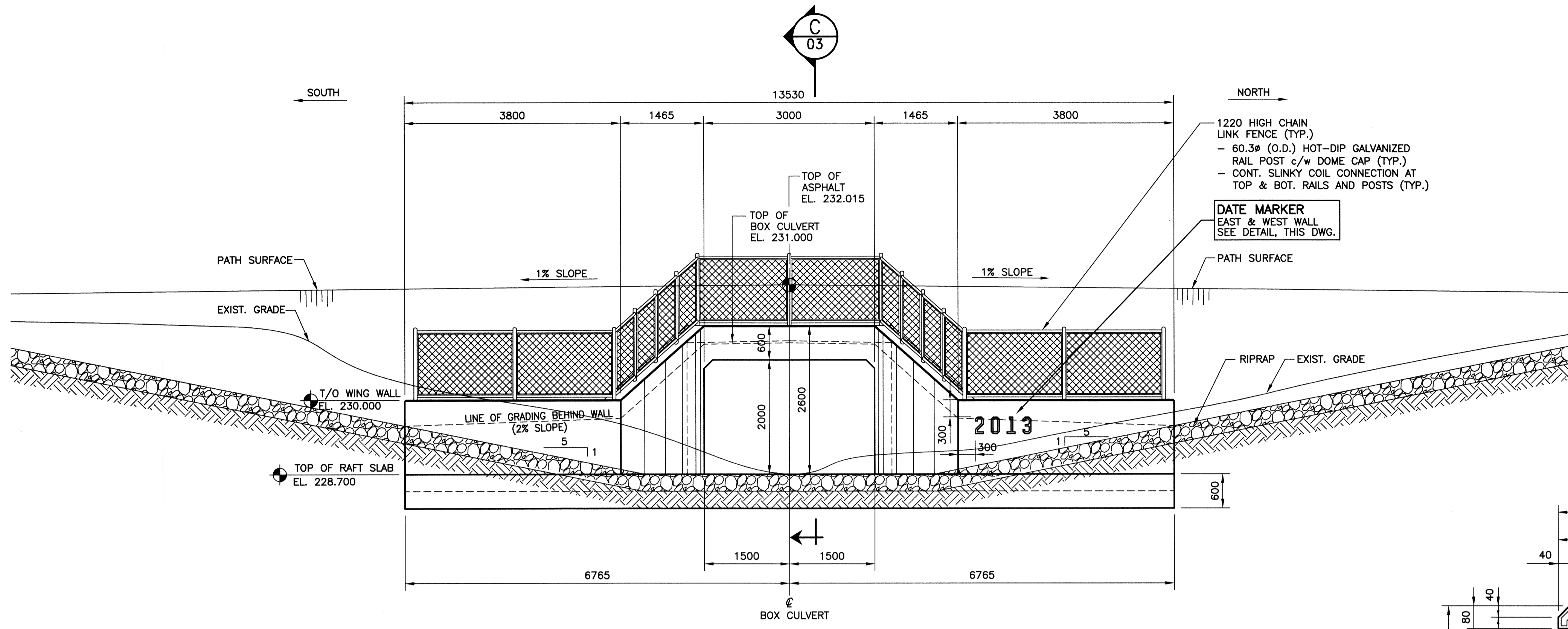
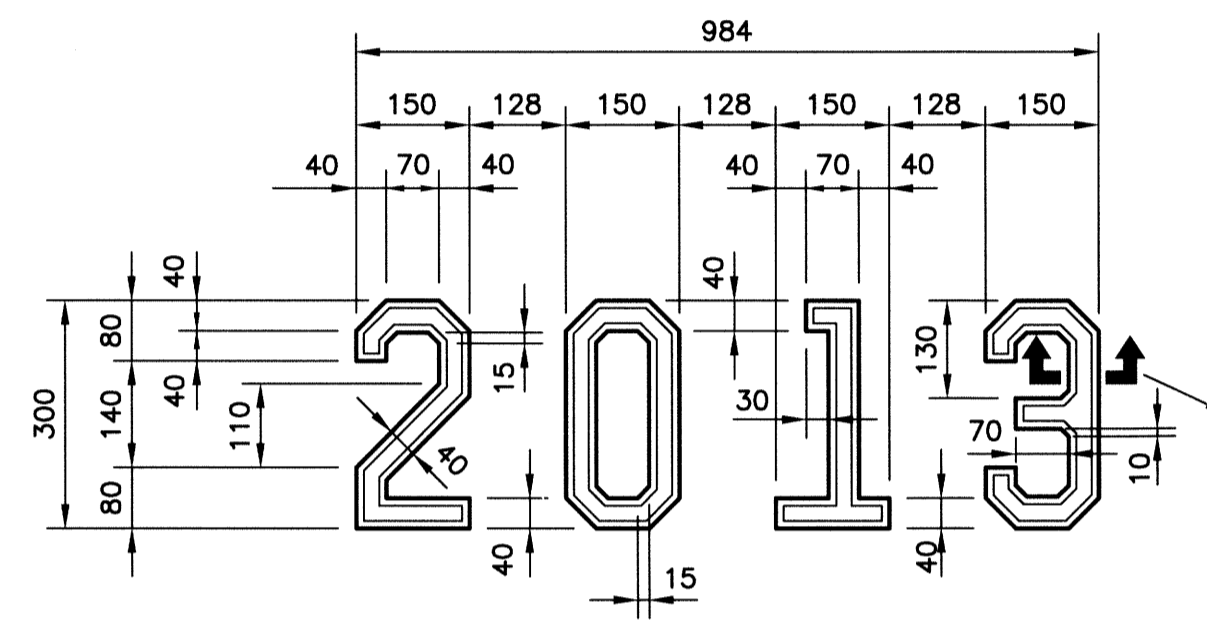


**CULVERT DESIGN DATA**

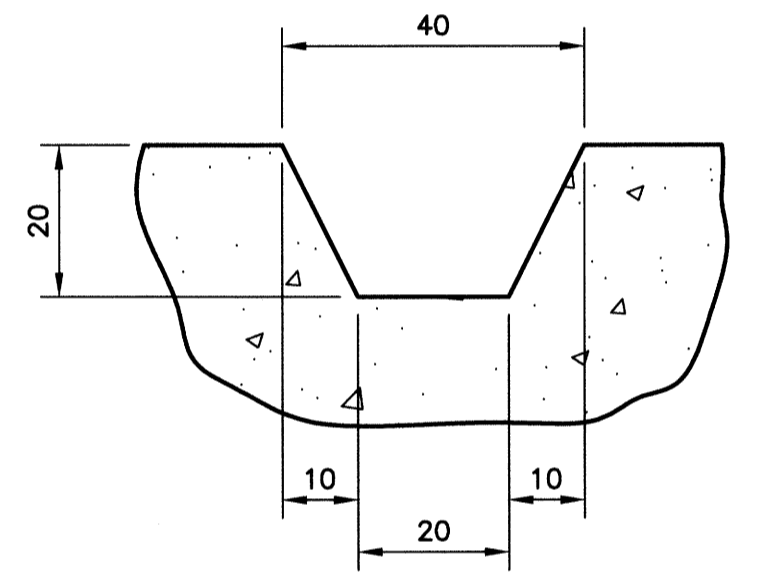
**SPECIFICATIONS:**  
 CAN/CSA S6-06  
**DESIGN VEHICULAR LOAD:**  
 MAINTENANCE VEHICLE, CLAUSE 3.8.11  
 GROSS VEHICLE WEIGHT - 80KN  
**DESIGN SOIL PARAMETERS:**  
 $\gamma = 19.0 \text{ kN/M}^3$   
 $\lambda_v = 1.35$ , CLAUSE 7.8.4.2.3  
 $\lambda_h = 0.50$ , CLAUSE 7.8.4.2.3  
**CONCRETE:**  
 $f_c = 32 \text{ MPa}$ ; EXPOSURE CLASS S-2  
**REINFORCING STEEL:**  
 CSA G30.18 (LATEST), GRADE 400 MPa  
 ALL REINFORCING STEEL SHALL BE GALVANIZED.



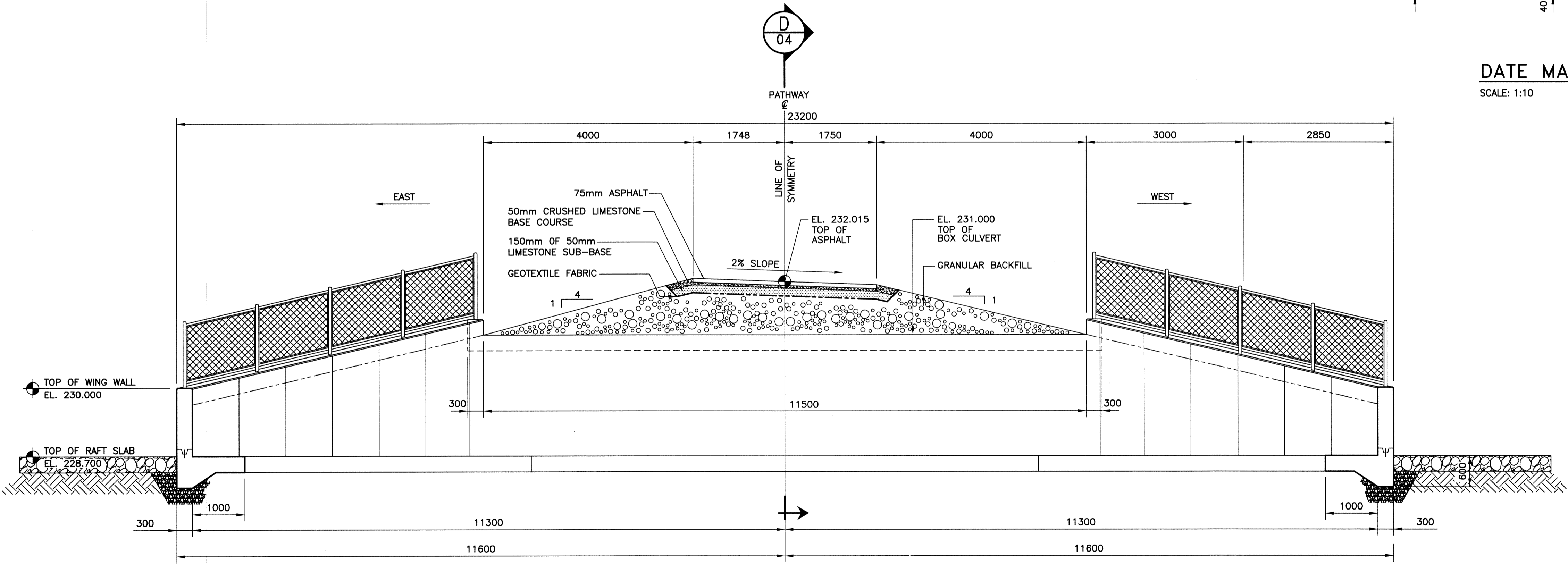
**A 01 EAST ELEVATION**  
 SCALE: 1:50



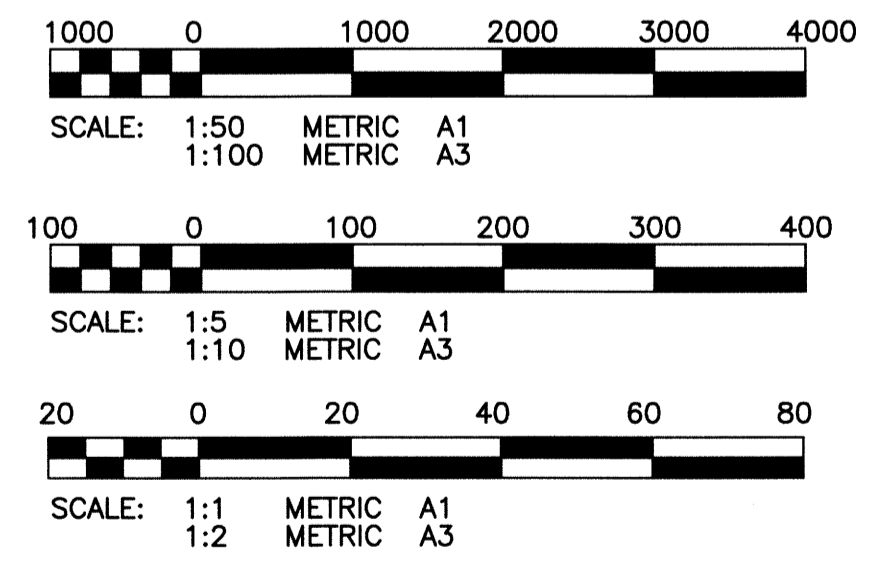
**DATE MARKER DETAIL**  
 SCALE: 1:10



**INSERT DETAIL**  
 SCALE: 1:1



**B 01 NORTH ELEVATION**  
 SCALE: 1:50



**METRIC**  
 WHOLE NUMBERS INDICATE MILLIMETRES  
 DECIMALIZED NUMBERS INDICATE METRES



P:\Projects\2012\12-0107-005\Doc\Control\Released\DWG\12-0107-005-C380-13-02-Rev 0.dwg - Tab: 02 Plotted By: Dderoche 01/24/2013 [Thu 8:29am]

150 WM	WATERMAIN	150 WM	HYDRO	150 WM	WATERMAIN	150 WM	WATERMAIN
Hydrant	HYDRANT	Valve	M.T.S.	Hydrant	HYDRANT, VALVE	300 LBS	LAND DRAINAGE SEWER
300 LBS	LAND DRAINAGE SEWER	300 LBS	CONCRETE	250 WWS	WASTE WATER SEWER	250 WWS	WASTE WATER SEWER
250 WWS	WASTE WATER SEWER	250 WWS	ASPHALT	250 WWS	WASTE WATER SEWER	250 WWS	WASTE WATER SEWER
Manhole	MANHOLE	Manhole	SIDWALK	Manhole	MANHOLE	Manhole	MANHOLE
Catch Basin	CATCH BASIN	Catch Basin	KGS TEST HOLE	Catch Basin	CATCH BASIN	Catch Basin	CATCH BASIN
Curb Inlet	CURB INLET	Curb Inlet	PROPERTY LINE	Curb Inlet	CURB INLET	Curb Inlet	CURB INLET
Junctions	JUNCTIONS	Junctions	SURVEY BAR	Junctions	JUNCTIONS	Junctions	JUNCTIONS
Culvert	CULVERT	Culvert	DITCH	Culvert	CULVERT	Culvert	CULVERT
Gas	GAS	Gas	ELEVATION	Gas	GAS	Gas	GAS
Existing	LEGEND-PLAN	Proposed	Existing	Existing	LEGEND-PLAN	Proposed	Existing
Existing	LEGEND-PROFILE	Proposed	Existing	Existing	LEGEND-PROFILE	Proposed	Existing

**LOCATION APPROVED UNDERGROUND STRUCTURES**

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:  
 LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

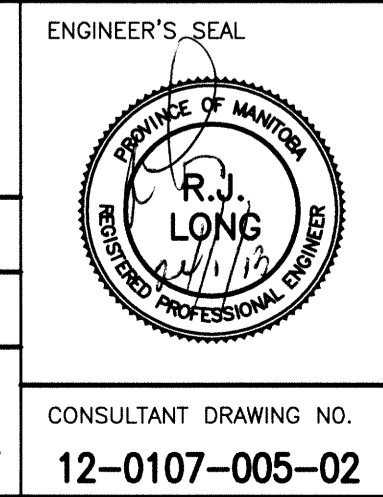
0	ISSUED FOR TENDER	13/01/23	RJL
NO.	REVISIONS	DATE	BY

**KGS GROUP CONSULTING ENGINEERS**

DESIGNED BY: RJL  
 CHECKED BY: [Signature]  
 DRAWN BY: JF/EDC  
 APPROVED BY: [Signature]

SCALE: AS NOTED  
 RELEASED FOR CONSTRUCTION: [Signature]

DATE: 12/06/29



**THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT**

PROJECT TITLE: MULTI-USE PATH AND NAVIN DRAIN C.I.P. CONCRETE CULVERT

SHEET OF 04 OF 09

COMPUTER FILE NAME: 12-0107-005

CITY DRAWING NUMBER: C380-13-02

CONSULTANT DRAWING NO.: 12-0107-005-02