

THE CITY OF WINNIPEG
THE PUBLIC WORKS DEPARTMENT

BID OPPORTUNITY NO. 24-2011
CITY OF WINNIPEG

2010 ACTIVE TRANSPORTATION
INFRASTRUCTURE STIMULUS PROGRAM

NAVIN DRAIN CROSSING: LAGIMODIERE MULTI-USE PATH

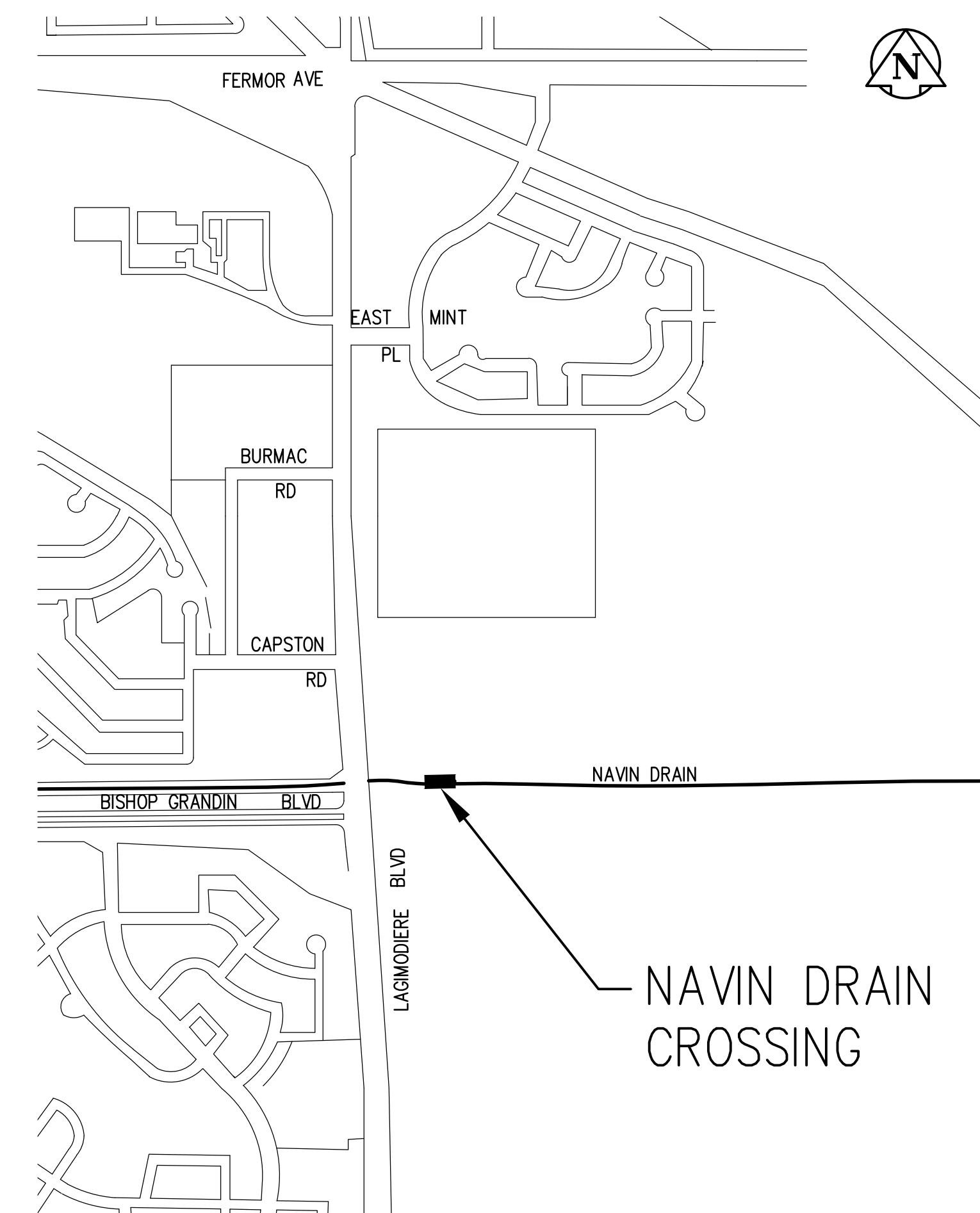
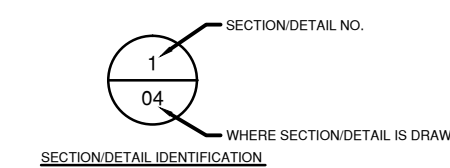


GENIVAR JOB NO. 09-150

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C387-11-03	BOX-CULVERT PLANS
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ABBREVIATIONS LEGEND

CONC. - CONCRETE	MIN. - MINIMUM
REINF. - REINFORCING	LG. - LONG
EL. - ELEVATION	ALT. - ALTERNATE
FTG. - FOOTING	DWL. - DOWEL
COL. - COLUMN	BM. - BEAM
VERT. - VERTICAL	SPS. - SPACES
HOR. - HORIZONTAL	GALV. - GALVANIZED
O/C - ON CENTER	TYP. - TYPICAL
U/S - UNDERSIDE	C/W - COMPLETE WITH
E.W. - EACH WAY	R/W - REINFORCE WITH
E.F. - EACH FACE	OPNG. - OPENING
I.F. - INSIDE FACE	EXIST. - EXISTING
O.F. - OUTSIDE FACE	T.U.L. - TOP UPPER LEVEL
T.O. - TOP OF	T.L.L. - TOP LOWER LEVEL
BOT. - BOTTOM	B.U.L. - BOTTOM UPPER LEVEL
LONG. - LONGITUDINAL	B.L.L. - BOTTOM LOWER LEVEL
TRANS. - TRANSVERSE	LEVEL
T.S. - TEMPERATURE AND SHRINKAGE REINFORCING	€ - CENTER LINE
S.S. - STAINLESS STEEL	T & B - TOP AND BOTTOM
U/N - UNLESS NOTED	LLV. - LONG LEG VERTICAL
MAX. - MAXIMUM	LLH. - LONG LEG HORIZONTAL
E.S. - EACH SIDE	LL. - LIVE LOAD
H.K. - HOUSEKEEPING	D.L. - DEAD LOAD
TYP. - TYPICAL	TEMP. - TEMPERATURE
CONT. - CONTINUOUS	MID. - MIDDLE
SIM. - SIMILAR	GEOD. - GEODETIC
P.T. - PRESSURE TREATED	E.E. - EACH END
T.J. - TIE JOISTS	CSP. - CORRUGATED STEEL PIPE
O.W.S.J. - OPEN WEB STEEL JOISTS	



DESIGN SPECIFICATIONS:

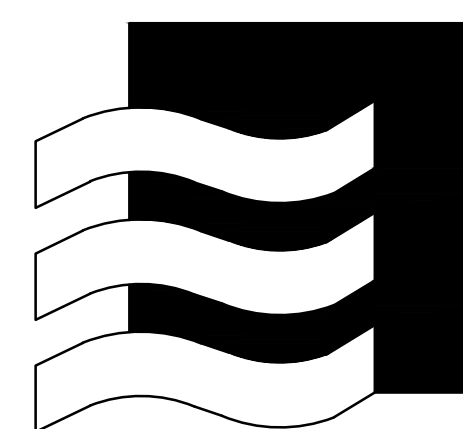
- D-1. This structure is designed in accordance with and shall be constructed in compliance with the following Codes and Specifications:
 - Canadian Highway Bridge Design Code CSA S6-06
- D-2. Principal applied design loads are indicated on appropriate plans.
- D-3. All foundation elements are designed as per recommendations made by GENIVAR in their report dated August 2010.
- D-4. Highway Live loading = CL625

GENERAL NOTES:

- 1) Design live loads should not be exceeded at any time during construction.
- 2) Do not scale the drawings.
- 3) Verify all dimensions, elevations, slopes, details, conditions, etc. shown on the structural drawings; with the latest consultant drawings and the site, prior to construction or prefabrication of any bridge component.
- 4) Discrepancies or ambiguities on the drawings and/or the site, which affect the box-culvert structure, shall be reported to the Design Engineer.
- 5) Where an overlap or a duplication occurs on the drawings, the more effective solution shall be considered correct, unless approved otherwise by the Design Engineer.
- 6) Modifications, alterations or substitutions must be authorized in writing by the Design Engineer prior to implementation.
- 7) The General Contractor shall locate all existing site services prior to start of construction.
- 8) Location of the construction joints is the responsibility of the General Contractor, but approval must be obtained from the Design Engineer before proceeding.
- 9) The contractor shall be responsible for the design and installation of all necessary shoring, bracing and formwork. Formwork for new construction shall be bridged over existing services. Procedure must be approved by the Design Engineer.
- 10) The General Contractor shall notify the Design Engineer at least 48 hours prior to all concrete pours and/or installation of interior sheathing, to allow for site inspections.

FOUNDATIONS:

- 1) Raft slab has been designed for an allowable bearing capacity of 71.8 kpa, as suggested in the soil report prepared by GENIVAR dated September 2010. The Geotechnical Engineer is to verify bearing capacity prior to pour.
- 2) Soil logs are provided for information only. Examine prevailing conditions at site prior to submitting bid. no extras shall be granted should actual site conditions differ from those indicated.
- 3) Prepare subgrade as follows:
 - Within the proposed structure area and at least 1.2m beyond the structure perimeter, remove all heterogeneous fill, organic material, peat moss, softened soil and ponded water to expose the underlying clay layer. Depth of site stripping is expected to be 600mm below existing grade. any additional fill should comprise of either the same material (20mm) or subbase material (50mm down granular fill). Since the anticipated floor is granular fill, the depth of site stripping should cover the entire structure.
 - Call for subgrade inspection. The exposed subgrade should be compacted with vibratory roller equivalent to 95% Standard Proctor density. If the exposed subgrade can not be compacted due to saturation, the need for permanent subdrains placed underneath the subgrade should be enforced to attain the required compaction.
 - Once the subgrade is approved, place 300mm of 50 to 75mm granular fill (c-base or subbase) followed by 300 mm thickness of 20mm down granular fill (A-base or base course material) across the entire width of the structure area and 1.2m beyond. Both of the subbase and base course material should be placed and uniformly compacted with a heavy vibratory roller to at least 98% Standard Proctor density (ASTM D698)
- 4) Do not cast raft slab and piers on frozen soil.



GENIVAR

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