PLANS

OF PROPOSED

RECONSTRUCTION AND STRENGTHENING OF EXISTING BRIDGE OVER ASSINIBOINE RIVER - CONTRACT ONE

ON P.T.H. No. 100

LENGTH APPROX. 138 862 C. TO C. ABUTMENT BEARINGS

SUBSTRUCTURE TWO REINFORCED CONCRETE ABUTMENTS & FOUR REINFORCED CONCRETE PIERS

SUPERSTRUCTURE FIVE SPANS

LOCATION R.L.'S 72, 73 & 94
PARISH OF ST. CHARLES
CITY OF WINNIPEG

DESIGN DATA

SPECIFICATIONS:

2004 AASHTO LFRD Bridge Design Specifications with 2005 interim revisions

LOADING:

Vehicular Live Loading (whichever governs)
1. AASHTO LRFD HL-93 loading
2. Modified AASHTO HSS 25 truck loading

CEMENTITIOUS MATERIALS:

CSA A3001

STRUCTURAL CONCRETE:

Pier cantilevers and bearing pedestals - CSA A23.1-04 Exposure Class F-1
- f'c = 32 MPa at 28 days
- Type GU cement or GUb blended cement
- Category 1 air entrainment
- 20 mm nominal aggregate

REINFORCING STEEL:

CSA G30.18-M92 Grade 400W

THREADBAR ANCHORS FOR PIER CANTILEVERS:

DYWIDAG 32 mm diameter threadbar Grade 1030 MPa conforming to CAN/CSA G279

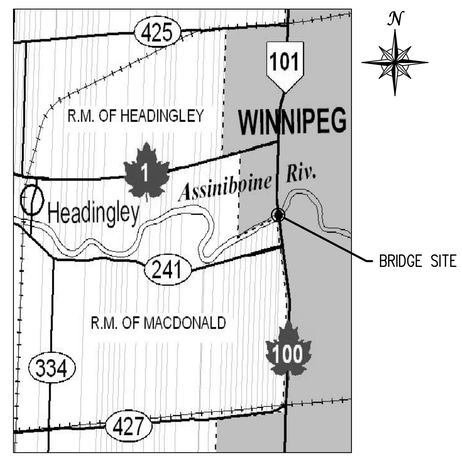
PILE LOADING:

Abutment Piles:
HP 310 x 110 steel H-Piles with welded driving tips, driven to refusal:
- Factored load (LRFD service limit state) = 340 kN
- Factored resistance (LRFD service limit state) = 575 kN

PROJECT CONTRACTS

Contract	Primary Items of Work	Approximate Construction Period
1	Structural steel fabrication, erection of girder G10 and associated bracing and diaphragms, pier modifications, temporary abutment supports for new girder G10, and related works	June 2009 to February 2010
2 (by others)	PTH 100 embankment widening, PTH 100 traffic crossover construction, and related works.	June 2009 to October 2009
3 (by others)	Abutment modifications, superstructure reconstruction and strengthening, and related works	March 2010 to October 2011

Work Item	Work Description	Contract
1	Modify piers	1
2	Construct temporary supports for new girder G10	3
3	Fabricate new girder G10	1
4	Erect new girder G10	3
5	Fabricate cross frames for G10	1
6	Erect cross frames for G10	3
7	Fabricate jacking diaphragms for bay G9-G10	1
8	Erect jacking diaphragms for bay G9-G10	3
9	Fabricate remaining jacking diaphragms	1
10	Erect remaining jacking diaphragms	3
11	Fabricate cover plates for girders G1 to G9	1
12	Erect cover plates for girders G1 to G9	3
13	Supply bearings for girder G10	1
14	Install bearings for girder G10	1
15	Supply bearings for remaining girders	1
16	Install bearings for remaining girders	3



LOCATION PLAN

Not to Scale

SHEET LEGEND:

1. COVER SHEET
2. GENERAL ELEVATION
3. BORE HOLE LOGS
4. MISCELLANEOUS PIER CONCRETE REPAIRS
5. LIMITS OF DEMOLITION ON PIERS & ABUTMENT WINGWALLS
6. CANTILEVER & BEARING PEDESTAL CONCRETE DETAILS
7. CANTILEVER REINFORCING & COUPLER DETIALS
8. CANTILEVER & PEDESTAL REINFORCING DETAILS
9. CANTILEVER & PEDESTAL REINFORCING DETAILS
10. CANTILEVER DYWIDAG DETAILS
11. TEST ANCHOR DETAILS
12. NEW ABUTMENT & TEMPORARY PILE DETAILS
13. GIRDER G10 CAMBER DIAGRAM AND ROADWAY PROFILE
14. PLANS OF GIRDERS
15. NEW GIRDER MK. G10
16. NEW GIRDER MK. G10
17. NEW GIRDER MK. G10
18. NEW GIRDER MK. G10
19. NEW GIRDER MK. G10
20. STRUCTURAL STEEL DETAILS
21. MODIFICATIONS TO EXISTING GIRDER MK. G9
22. MODIFICATIONS TO EXISTING GIRDER MK. G9
23. MODIFICATIONS TO EXISTING GIRDER MK. G9
24. MODIFICATIONS TO EXISTING GIRDER MK. G9
25. INTERMEDIATE K-FRAME BRACING DETAILS
26. PIERS 2 & 3 X-FRAME BRACING DETAILS
27. JACKING DIAPHRAGM DETAILS - PIERS 1 & 4
28. JACKING DIAPHRAGM DETAILS - PIERS 1 & 4
29. JACKING DIAPHRAGM DETAILS - PIERS 1 & 4
30. JACKING DIAPHRAGM DETAILS - NORTH & SOUTH ABUTMENTS
31. GIRDER TEMPORARY SUPPORT DETAILS
32. COVER PLATE & SPLICE PLATE DETAILS
33. BEARING DETAILS
34. BEARING DETAILS
35. BEARING DETAILS
36. BEARING DETAILS
37. SITE AND EROSION CONTROL DETAILS
38. SITE AND EROSION CONTROL DETAILS
~~39. TRAFFIC CONTROL PLAN~~

REFERENCE SHEETS:

ORIGINAL 1957 CONSTRUCTION DRAWINGS:

G-1. FRAMING LAYOUT & BEARING DETAILS
G-2. GIRDER, SWAY FRAMES & EXPANSION DETAILS
G-3. GIRDER ELEVATIONS, SPLICES & DEFLECTIONS
S-1. SUBSTRUCTURE LAYOUT & SOIL DATA
S-2. FOOTING LAYOUT, CATCHBASIN & ELECTRICAL DETAILS
S-3. PIER, ABUTMENT & ANCHOR BOLT LAYOUTS
S-4. FOOTING, CATCHBASIN, SIDEWALK & WINGWALL REINF.
S-5. PIER & ABUTMENT REINFORCING
D-1. GENERAL LAYOUT

2006 RIP RAP DRAWINGS:

1. PROPOSED PROJECT PLAN SUBMITTED FOR ENVIRONMENTAL REVIEW

NOTE:

Elevations shown on existing 1957 reference drawings are approximately 275 mm higher than actual geodetic elevations. All elevations for proposed work shall be field verified.

ENVIRONMENTAL APPROVALS

☐ MANITOBA ENVIRONMENT LICENCE RECEIVED
LICENCE No. _____

☒ FISHERIES AND OCEANS CANADA - LETTER OF ADVICE/ AUTHORIZATION TO HARMFULLY ALTER, DISRUPT OR DESTRUCT HABITAT SUBJECT TO CONDITIONS IN LETTER
DATED September 29, 2008
DFO FILE No. 08-HCAA-CAI-00522

☐ TRANSPORT CANADA - LETTER OF APPROVAL SUBJECT TO CONDITIONS IN LETTER DATED Pending
NWPA FILE No. (Approval to be dependent upon contracor's submission)

☐ FISHERIES AND OCEANS CANADA - WORK SHALL BE COMPLETED IN ACCORDANCE WITH DFO'S OPERATIONAL STATEMENT, AS PER LETTER/MEMO
DATED _____
FROM _____

☐ NO ENVIRONMENTAL CLEARANCE REQUIRED

COMPLETED BY: Original signed by Ninel Gonzalez DATE: April 20, 2009

MANITOBA INFRASTRUCTURE AND TRANSPORTATION

WATER CONTROL AND STRUCTURES

RELEASED FOR CONSTRUCTION BY :

Original signed by Ruth J. Eden
DIRECTOR
STRUCTURES, DESIGN & CONSTRUCTION BRANCH

DATE May 1, 2009

ALL DIMENSIONS ARE IN MILLIMETRES (mm) AND ALL ELEVATIONS AND STATIONS ARE IN METRES (m) UNLESS SHOWN OTHERWISE.

DRAWN BY: M.S. DATE: February 2009 SHEET No. 1

CHECKED BY: M.B.C. DATE: February 2009 SITE No. 2924-00