LIST OF DRAWINGS:

CITY OF WPG. DRAWING NUMBER	SHEET NUMBER	DRAWING DESCRIPTION
B107-25-001	1	COVER SHEET
B107-25-002	2	LIST OF DRAWINGS AND DESIGN DATA
B107-25-003	3	GENERAL ARRANGEMENT AND SCOPE OF WORK
B107-25-004	4	TEMPORARY WORKS
B107-25-005	5	PROPOSED PIER CONSTRUCTION SEQUENCE OF WORK
B104-25-006	6	SOUTH ABUTMENT SU.1 AND SU.5 BEARING PLAN AND JACKING PROCEDURE
B107-25-007	7	SU.1 BEARING REPLACEMENT DETAILS
B107-25-008	8	SU.5 BEARING REPLACEMENT DETAILS
B107-25-009	9	PIER SU.2 AND SU.4 SHEET PILES LAYOUT AND DETAILS
B107-25-010	10	PIER SU.2 AND SU.4 PILING LAYOUT AND DETAILS
B107-25-011	11	PIER SU.2 CONCRETE DETAILS
B107-25-012	12	PIER SU.4 CONCRETE DETAILS
B107-25-013	13	PIER SU.2 REINFORCING DETAILS SHEET 1 OF 5
B107-25-014	14	PIER SU.2 REINFORCING DETAILS SHEET 2 OF 5
B107-25-015	15	PIER SU.2 REINFORCING DETAILS SHEET 3 OF 5
B107-25-016	16	PIER SU.2 REINFORCING DETAILS SHEET 4 OF 5
B107-25-017	17	PIER SU.2 REINFORCING DETAILS SHEET 5 OF 5
B107-25-018	18	PIER SU.4 REINFORCING DETAILS SHEET 1 OF 4
B107-25-019	19	PIER SU.4 REINFORCING DETAILS SHEET 2 OF 4
B107-25-020	20	PIER SU.4 REINFORCING DETAILS SHEET 3 OF 4
B107-25-021	21	PIER SU.4 REINFORCING DETAILS SHEET 4 OF 4
B107-25-022	22	BILL OF REINFORCING
B107-25-023	23	BILL OF REINFORCING

DESIGN DATA:

DESIGN SPECIFICATIONS:

- CANADIAN HIGHWAY BRIDGE DESIGN CODE CAN/CSA-S6-25

LIVE LOADING:

- 36.5 TONNE GVW BASIC LEGAL TRUCK CONFIGURATION AS NORMAL TRAFFIC - ALTERNATIVE LOADING

STRUCTURAL CONCRETE:

PIER CONCRETE
- CSA A23.1, EXPOSURE CLASS C-1
- f'c= 35MPa @ 28 DAYS
- AIR CONTENT CATEGORY 1

REINFORCING STEEL:

- CONCRETE COVER SHALL BE 75mm UNLESS OTHERWISE NOTED
- DEFORMED CARBON STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO CSA G30.18, GRADE 400W

MINIMUM LAP LENGTH (UNLESS OTHERWISE NOTED):

- 15M - 700mm
- 20M - 850mm
- 25M - 1300mm
- 30M - 1550mm

REBAR DOWELS:

- REBAR DOWELS TO BE PLACED WITH HILTI HIT RE500 V3 EPOXY OR ACCEPTED ALTERNATE.

TIE-BARS THROUGH PIER:

- TIE BARS CORED THROUGH PIER SHALL BE DEFORMED CARBON STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO CSA G30.18, GRADE 500W
- TIE BARS SHALL BE DEVELOPED USING T-BAR COUPLERS ON THEIR END. END ANCHORAGE SHALL BE DAYTON SUPERIOR D251L OR ACCEPTED ALTERNATE.
- TIE BARS TO BE PRESSURE GROUTED IN PLACE WITHIN A 73mm OUTSIDE DIAMETER (2.875" SCHEDULE 40 PIPE OR ACCEPTED EQUIVALENT) PLASTIC BAR DUCT. THE HOLE FOR THE DUCT SHALL BE CORED TO ALLOW FOR INSTALLATION OF THE DUCT. THE GAP AROUND THE OUTSIDE OF THE DUCT SHALL BE KEPT TO A MINIMUM (+/-5 mm) AND BE SEALED THROUGH THE DEPTH OF LIMESTONE WITH EPOXY AROUND THE PERIMETER OF PIPE. THE GROUT IS FOR BAR DURABILITY ONLY AND NOT BOND TO THE CORE OF THE PIER. GROUT TO CAN/CSA A3000 TYPE GU / 20. MINIMUM GROUT STRENGTH OF 40 MPa AT 28 DAYS.

MISCELLANEOUS METAL:

- ALL MISCELLANEOUS METAL SHALL CONFORM TO CAN/CSA-G40.21-M GRADE 300W UNLESS NOTED OTHERWISE.
- MISCELLANEOUS METAL TO BE HOT DIP GALVANIZED SHALL CONFORM TO CAN/CSA G164M TO A MINIMUM 87 UM THICKNESS.

MICRO PILES:

- IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS THE MICRO-PILES SHALL BE DESIGN BY THE MICROPILE CONTRACTOR OR THEIR DELEGATED ENGINEER UNDER THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE PROVINCE OF MANITOBA.
- ALL MICROPILES SHALL BE DESIGNED TO RESIST A MINIMUM AXIAL LOAD IN COMPRESSION OF 1500 kN AT ULS COMBINED WITH A LATERAL LOAD OF 65 KN TAKEN BY SOIL PILE INTERACTION APPLIED AT THE TOP OF THE MICROPILE. BATTERED COMPONENTS SHALL NOT BE ACCOUNTED FOR IN THE DESIGN OF THE PILE LATERAL CAPACITY, AS IT HAS BEEN ACCOUNTED FOR TO DETERMINE THE UPPER THRESHOLD OF LATERAL LOAD. DETAILED LOADING AT EACH PILE IS AVAILABLE UPON REQUEST, HOWEVER THE SPECIFIED DESIGN LOADS CONTAIN AN ALLOWANCE FOR FUTURE STRUCTURE REHABILITATION.
- MICROPILES SHALL HAVE AN EMBEDMENT OF 2 TIMES THE PILE DIAMETER INTO THE REINFORCED CONCRETE JACKET, WITH A MINIMUM EMBEDMENT OF 650MM AS SHOWN ON THESE PLANS.
- CONSTRUCTION TOLERANCES, AT COMPLETION OF INSTALLATION
  - FACE OF EXISTING PIER TO TOP OF MICROPILE WITHIN ±25 MM OF LOCATION INDICATED
  - BATTER TO BE WITHIN 1H:100V OF SPECIFIED BATTER
  - TOP OF MICROPILE ELEVATION ±25 MM

SHEET PILES:

- SHEET PILE SECTION NUCORE NZ 26-700 OR ACCEPTED EQUIVALENT DRIVEN TO MINIMUM 6M BELOW DESIGN CUT-OFF ELEVATION.
- SHEET PILE STEEL TO CAN/CSA G40.21-13 LATEST EDITION GRADE 350W AS A MINIMUM.
- CONSTRUCTION TOLERANCES, AT COMPLETION OF INSTALLATION
  - FACE OF WALL AT TOP OF SHEET PILE WITHIN ±25 MM OF LOCATION INDICATED
  - BATTER NOT TO EXCEED 1H:100V
  - TOP OF SHEET PILING CUT-OFF ELEVATION ±25 MM

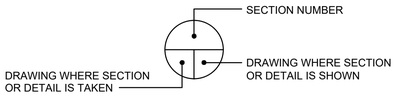
HEATING AND HOARDING:

- HEATING AND HOARDING SHALL BE IMPLEMENTED FOLLOWING MICROPILE INSTALLATION TO ALLOW FOR STUD WELDING, DOWEL PLACEMENT INTO MASONRY, CONCRETE JACKET PLACEMENT
- DURING DOWEL INSTALLATION THE EXISTING PIER SHALL BE AT SUFFICIENT TEMPERATURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE EPOXY TO CURE.
- DURING CONCRETE PLACEMENT THE EXISTING CORE OF THE PIER SHALL BE AT A MINIMUM OF 5°C .

NEW BEARINGS:

- FABRICATION AND DELIVERY BY OTHERS.
- INSTALLATION OF NEW BEARINGS BY CONTRACTOR.

SECTIONS AND DETAILS:



ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Tetra Tech Canada Inc.
No. 6499

B.M. ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	25.11.14	TN

TETRA TECH

DESIGNED BY	TN	REVIEWED BY	BN
DRAWN BY	BM	APPROVED BY	MB
SCALE:	AS NOTED	ACCEPTED BY	CAM WARD, P.ENG.
DATE	25.11.14	DATE	25.11.14

PROVINCE OF MANITOBA
T.A.B. NEIRINCK
Member
37947
2025-11-14
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT DRAWING NO.
704-INF.MBI03029.01-DWG-S1002

Winnipeg
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

LOUISE BRIDGE
SUBSTRUCTURE REHABILITATION WORKS - PHASE 1

CITY DRAWING NUMBER: B107-25-002
SHEET 2 OF 23

LIST OF DRAWINGS AND DESIGN DATA

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