

**NOTE:**

1. FINAL TRAIL ALIGNMENT DESIGN SHALL BE COMPLETED AT FIELD WITH DIRECTION OF PARKS CANADA AGENCY (PCA) REPRESENTATIVE(S) AND REQUIREMENTS OUTLINED ON PARKS TRAIL AND BACK COUNTRY FACILITY DESIGN GUIDELINES R(2007).

2. SAFETY RAIL OR BARRIER SHALL BE DESIGNED IN THE FIELD WITH DIRECTION FROM PCA TAKING INTO ACCOUNT THE POTENTIAL FALL HAZARD, THE STEEP SLOPE OF THE APPROACH TRAIL, THE TRAIL USAGE, USER APPROACH SPEEDS AND ANY ADDITIONAL RESTRICTION ON USERS AND USAGE THAT PCA MAY ELECT TO APPLY.

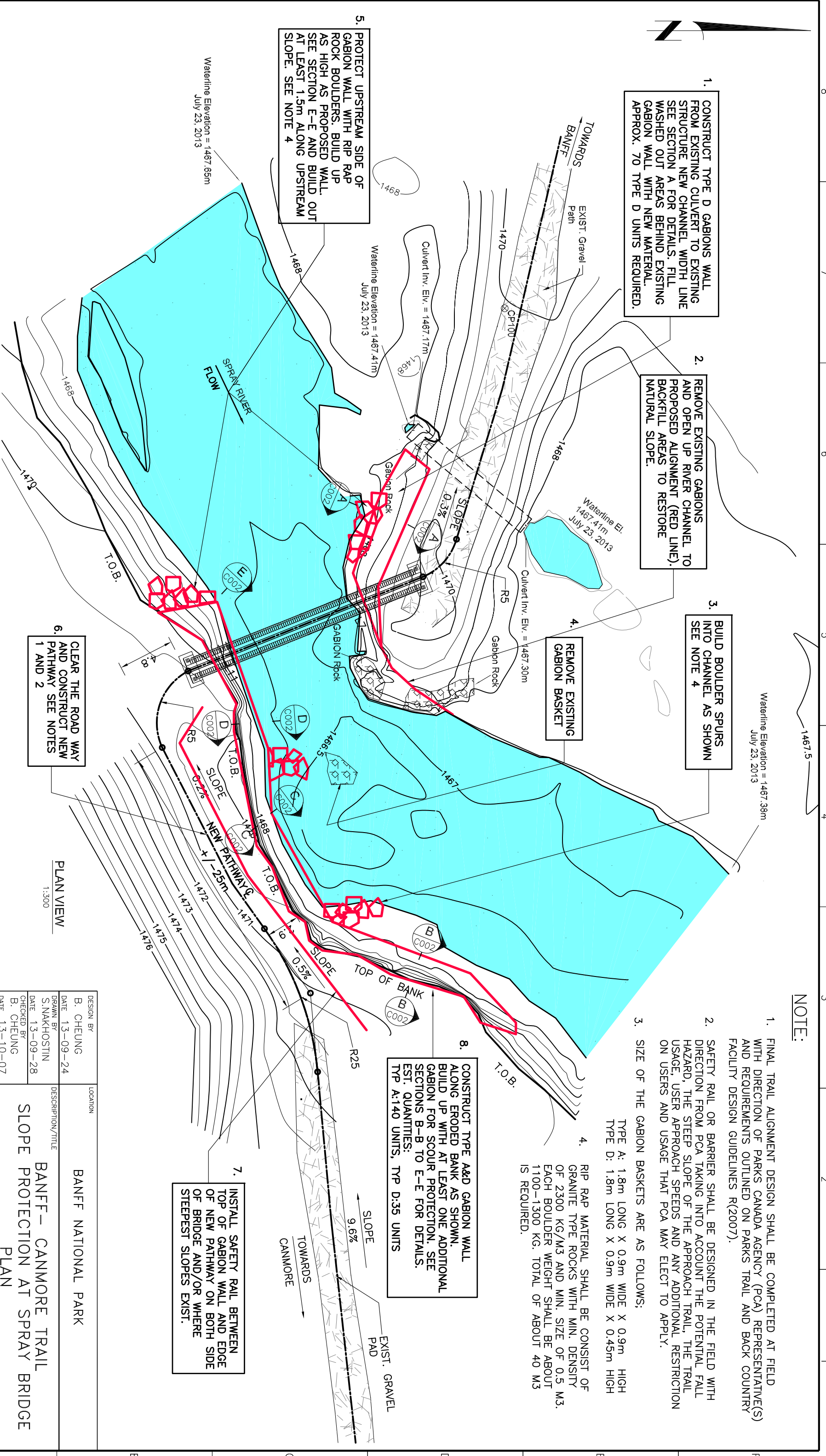
3. SIZE OF THE GABION BASKETS ARE AS FOLLOWS:

TYPE A: 1.8m LONG X 0.9m WIDE X 0.9m HIGH  
 TYPE D: 1.8m LONG X 0.9m WIDE X 0.45m HIGH

4. RIP RAP MATERIAL SHALL BE CONSIST OF GRANITE TYPE ROCKS WITH MIN. DENSITY OF 2300 KG/M3 AND MIN. SIZE OF 0.5 M3. EACH BOULDER WEIGHT SHALL BE ABOUT 1100-1300 KG. TOTAL OF ABOUT 40 M3 IS REQUIRED.

8. CONSTRUCT TYPE A&D GABION WALL ALONG ERODED BANK AS SHOWN. BUILD UP WITH AT LEAST ONE ADDITIONAL GABION FOR SCOUR PROTECTION. SEE SECTIONS B-B TO E-E FOR DETAILS. EST. QUANTITIES: TYP A:140 UNITS, TYP D:35 UNITS

7. INSTALL SAFETY RAIL BETWEEN TOP OF GABION WALL AND EDGE OF NEW PATHWAY ON BOTH SIDE OF BRIDGE AND/OR WHERE STEEPEST SLOPES EXIST.



1. CONSTRUCT TYPE D GABIONS WALL FROM EXISTING CULVERT TO EXISTING STRUCTURE NEW CHANNEL. WIDTH LINE SEE SECTION A FOR DETAILS. FILL WASHED OUT AREAS BEHIND EXISTING GABION WALL WITH NEW MATERIAL. APPROX. 70 TYPE D UNITS REQUIRED.

2. REMOVE EXISTING GABIONS AND OPEN UP RIVER CHANNEL TO PROPOSED ALIGNMENT (RED LINE). BACKFILL AREAS TO RESTORE NATURAL SLOPE.

3. BUILD BOULDER SPURS INTO CHANNEL AS SHOWN SEE NOTE 4

4. REMOVE EXISTING GABION BASKET

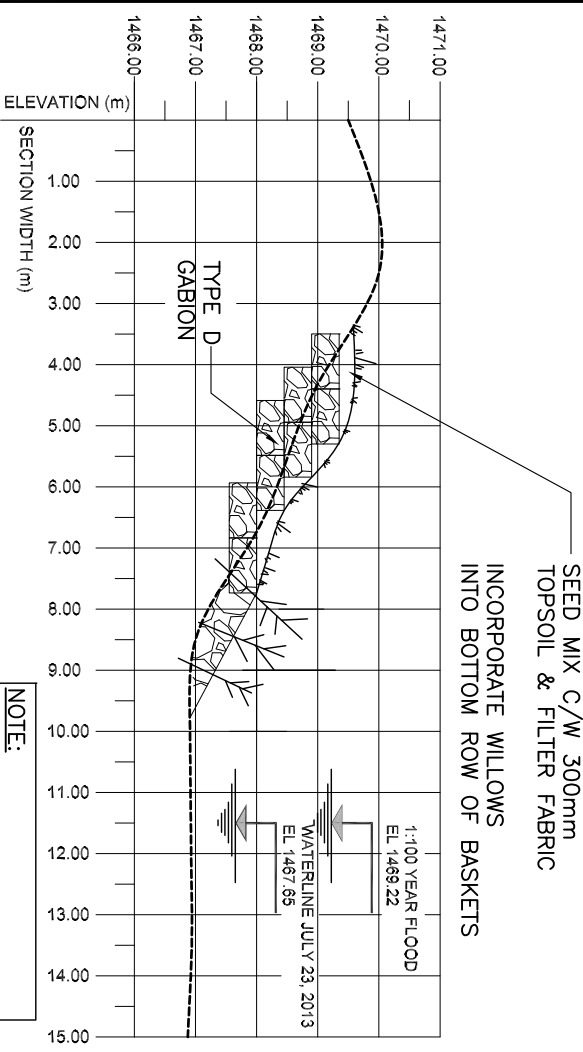
5. PROTECT UPSTREAM SIDE OF GABION WALL WITH RIP RAP ROCK BOULDERS. BUILD UP AS HIGH AS PROPOSED WALL. SEE SECTION E-E AND BUILD OUT AT LEAST 1.5m ALONG UPSTREAM SLOPE. SEE NOTE 4

6. CLEAR THE ROAD WAY AND CONSTRUCT NEW PATHWAY SEE NOTES 1 AND 2

PLAN VIEW  
1:300

DESIGN BY B. CHEUNG DATE 13-09-24	LOCATION BANFF NATIONAL PARK
DRAWN BY S.NAKHOSTIN DATE 13-09-28	DESCRIPTION/TITLE BANFF- CANMORE TRAIL SLOPE PROTECTION AT SPRAY BRIDGE PLAN
CHECKED BY B. CHEUNG DATE 13-10-07	
APPROVED BY	
DATE	REF NO./PROJECT No
SCALE 1:300	OLD DRAWING NUMBER
SHT 1 OF 1	C-001
	REVISION B

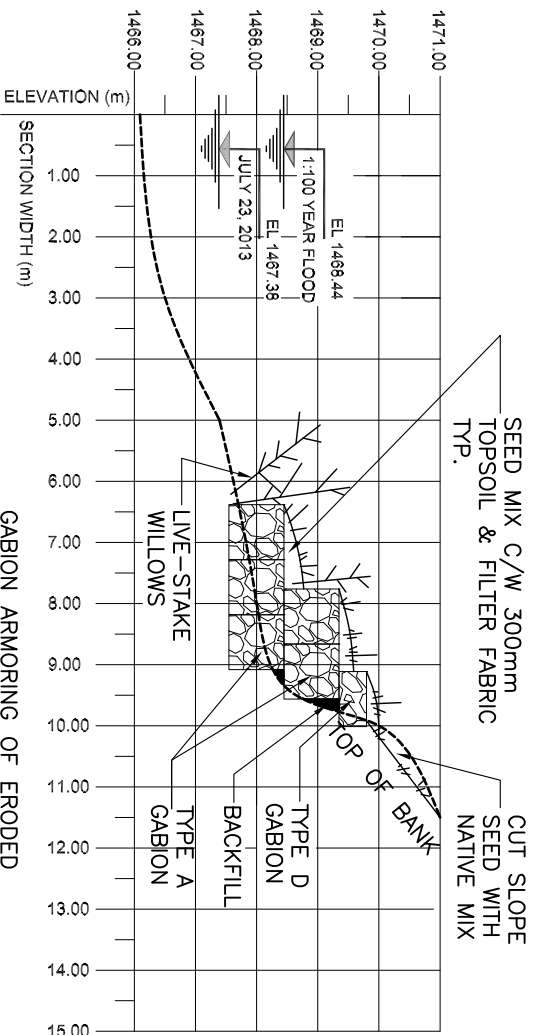
DESIGNATION	NO.	DATE	DESCRIPTION
REFERENCE NUMBER	A	13-10-07	ISSUED FOR BID
REFERENCE NUMBER	B	13-11-02	RE-ISSUED FOR BID
DRAWING TITLE			
REVISIONS			
	DWN	CHD	ENG



**SECTION A**  
1:125  
C001

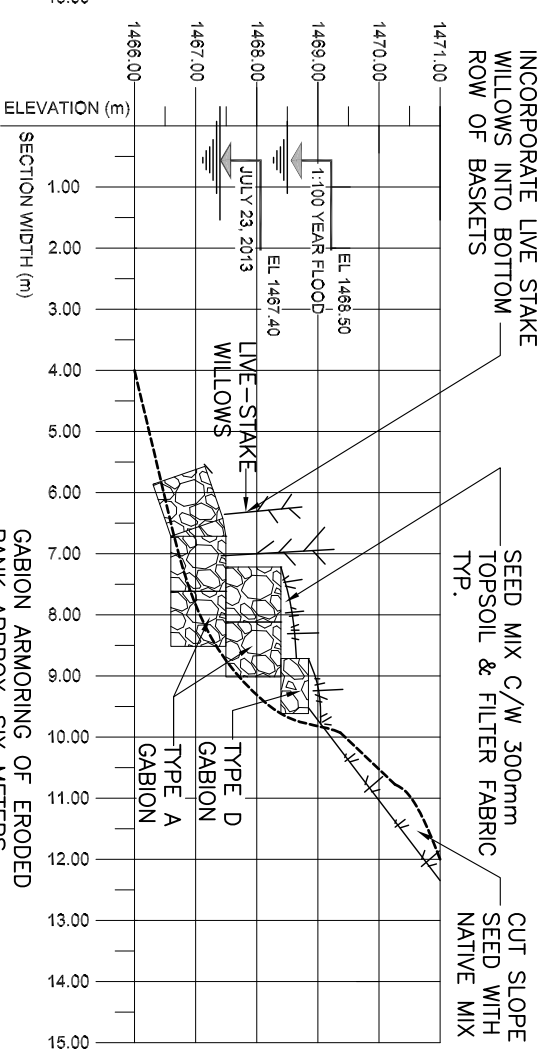
GABION ARMORING ALONG BANK WITH EXISTING CULVERT AND PREVIOUS BRIDGE ABUTMENT

**NOTE:**  
EXISTING GABION BASKETS TO BE REMOVED AND BANK RE-SHAPED AS PER NOTES ON PLAN VIEW DWG C-001



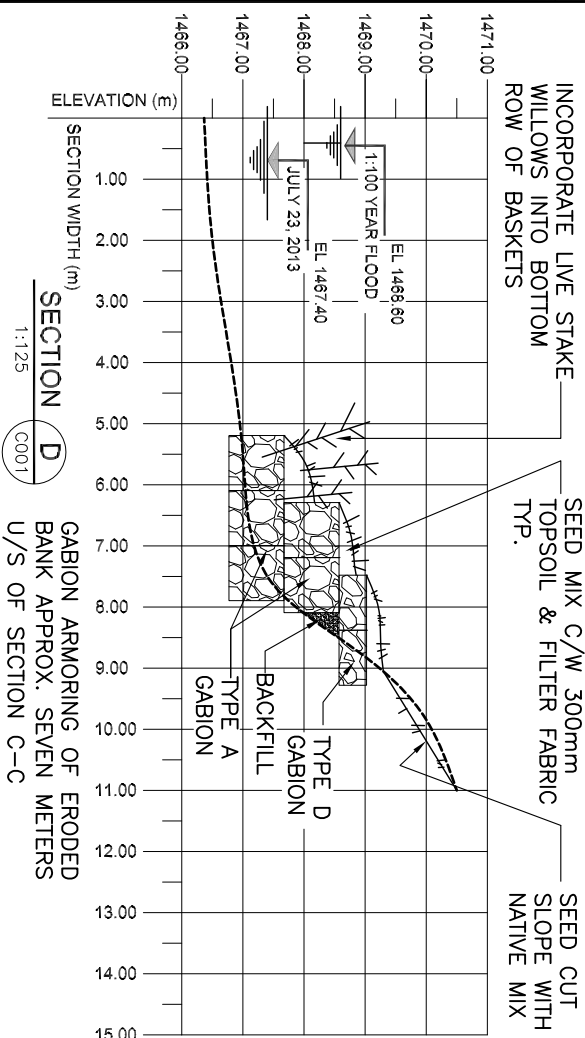
**SECTION B**  
1:125  
C001

GABION ARMORING OF ERODED BANK APPROX. SIX METERS D/S OF ABANDONED ABUTMENT.



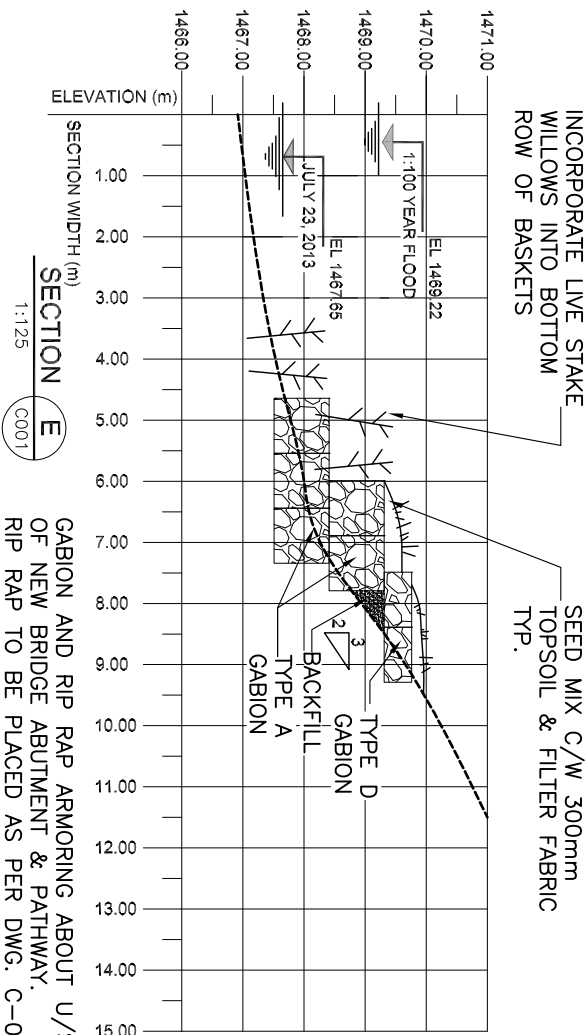
**SECTION C**  
1:125  
C001

GABION ARMORING OF ERODED BANK APPROX. SIX METERS U/S OF ABANDONED ABUTMENT.



**SECTION D**  
1:125  
C001

GABION ARMORING OF ERODED BANK APPROX. SEVEN METERS U/S OF SECTION C-C



**SECTION E**  
1:125  
C001

GABION AND RIP RAP ARMORING ABOUT U/S OF NEW BRIDGE ABUTMENT & PATHWAY. RIP RAP TO BE PLACED AS PER DWG. C-001

REFERENCE NUMBER	DRAWING TITLE	NO.	DATE
		A	13-10-07
		B	13-11-02

REVISIONS	DESCRIPTION	DWN/CHD	ENG
	ISSUED FOR BID	SHN	B.C. B.C.
	RE-ISSUED FOR BID	SHN	B.C. B.C.

DESIGN BY	B. CHEUNG
DATE	13-09-24
DRAWN BY	S.NAKHOSTIN
DATE	13-09-28
CHECKED BY	B. CHEUNG
DATE	13-10-07
APPROVED BY	
SCALE	AS SHOWN
REF. NO./PROJECT NO.	
OLD DRAWING NUMBER	

LOCATION	BANFF NATIONAL PARK
DESCRIPTION/TITLE	BANFF - CANMORE TRAIL SLOPE PROTECTION AT SPRAY BRIDGE CROSS SECTIONS A,B,C,D & E
REVISION	B

**GENERAL NOTES**

- ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH PROJECT TECHNICAL SPECIFICATION AND CIVIL DRAWINGS.
- ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS ARE IN METERS UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL VERIFY ALL RELEVANT DIMENSIONS, ELEVATIONS, AND DETAILS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING FABRICATION WORK.
- THE CONTRACTOR SHALL SUPPLY, INSTALL, MAINTAIN AND REMOVE UPON COMPLETION OF THE WORK ALL TEMPORARY STRUCTURES AND MEASURES NECESSARY TO EXECUTE THE WORK, AND TO PROTECT SITE PERSONNEL, EXISTING STRUCTURES, ADJACENT PROPERTY AND THE ENVIRONMENT FROM DAMAGE AND/OR INJURY THAT COULD RESULT FROM THE WORK OF THIS CONTRACT.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LEGISLATION AND REGULATIONS REGARDING WORKERS COMPENSATION AND OCCUPATIONAL HEALTH AND SAFETY.

**DESIGN CRITERIA**

1. REFERENCE CODES & STANDARDS

- CANADIAN HIGHWAY BRIDGE DESIGN CODE CAN/CSA S6-06
- PARKS CANADA DIRECTIVE FOR DESIGN, CONSTRUCTION AND INSPECTION OF VEHICULAR AND PEDESTRIAN BRIDGES JANUARY 2008.
- PARKS CANADA AGENCY TRAIL AND BACK COUNTRY FACILITY DESIGN GUIDELINES R(2007).
- SURVEY DATA PREPARED BY MEASUREMENT SCIENCES INC ON OCTOBER 11,2011 AND JULY 29,2013.
- HYDROTECHNICAL INFORMATION AND EROSION PROTECTION PLAN BY McELHANNNEY CONSULTING SERVICES THROUGH THE REPORT DATED SEPTEMBER 20, 2013.
- GEOTECHNICAL RECOMMENDATION FOR DESIGN AND CONSTRUCTION OF MICROPILES BY CURTIS ENGINEERING DATED SEPTEMBER 19, 2013.
- SNOWMOBILE LOADING ON THE BRIDGE IS BASED ON TELEPHONE CONVERSATION WITH PARKS CANADA ON OCTOBER 5, 2011.

2. DESIGN LOADS

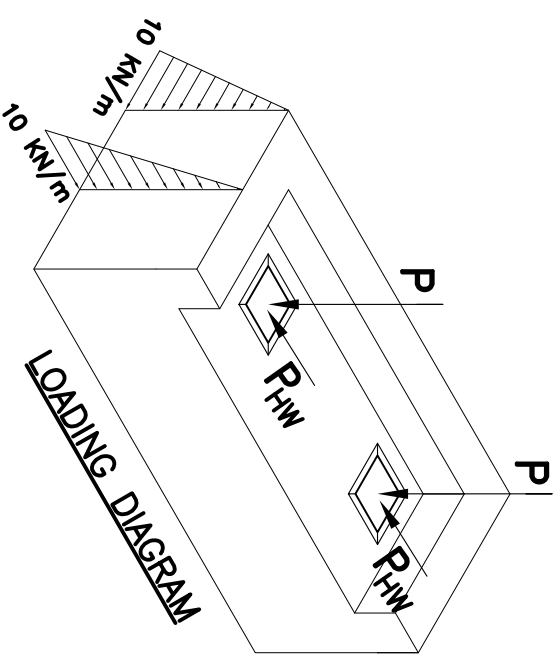
- FLOOD ELEVATION WITH RETURN PERIOD OF 1:100 YEARS AT BRIDGE LOCATION 1469.220
- ESTIMATED SCOUR DEPTH AT BRIDGE LOCATION 1.20m
- PEDESTRIAN LIVE LOAD 4.0 kPa
- GROUND SNOW LOAD (1/50)  $S_s=3.50$  kPa
- ASSOCIATED RAIN LOAD (1/50)  $S_r=0.1$  kPa
- SNOWMOBILE 700 LBS. (3.12 kN) DISTRIBUTED ON 2'x5' (610X1524 mm) FOOTPRINT.
- TRACK SET DEVICE ATTACHED TO SNOWMOBILE 300 LBS. (1.33 kN) DISTRIBUTED ON 2'x5' (610X1524 mm) FOOTPRINT.

**DESIGN & CONSTRUCTION OF MICROPILES**

- CONTRACTOR SHALL DESIGN, SUPPLY AND INSTALL STEEL MICROPILE SYSTEM REQUIRED FOR THIS PROJECT INCLUDING BUT NOT LIMITED TO THE SACRIFICIAL DRILLING BITS, STEEL CASINGS, HIGH STRENGTH REINFORCING BARS, PILE CAP ANCHORAGE PLATES AND HIGH STRENGTH GROUT.
- MICROPILE DESIGN AND CONSTRUCTION SHALL CONFORM TO FOLLOWING STANDARDS:
  - US FEDERAL HIGHWAY ADMINISTRATION MICROPILE DESIGN AND CONSTRUCTION REFERENCE MANUAL R(2005) FHWA-NH1-05-039.
  - CANADIAN FOUNDATION ENGINEERING MANUAL R(2006).
  - ALBERTA BUILDING CODE R(2006).
- CONTRACTOR SHALL PREPARE AND SUBMIT TO PARKS CANADA AGENCY (PCA), FOR REVIEW AND APPROVAL, WORKING DRAWINGS, SHOP DRAWINGS AND DESIGN CALCULATIONS FOR MICROPILES AT LEAST SEVEN (7) WORKING DAYS PRIOR TO PLANNED START OF CONSTRUCTION.
- THE ISSUED FOR CONSTRUCTION MICROPILES DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED GEOTECHNICAL ENGINEER CURRENTLY LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA.
- THE GEOTECHNICAL ENGINEER WHO DESIGNS THE MICROPILE SYSTEM SHALL HAVE SUPERVISION DURING CONSTRUCTION AND UPON COMPLETION OF THE WORK AT THE REQUEST OF PCA SHALL CONFIRM THROUGH A WRITTEN LETTER THAT INSTALLATION OF THE PILES MEETS THE DESIGN CRITERIA AND DESIGN DRAWINGS.
- FOR EACH MICROPILE AN INSTALLATION REPORT SHALL BE COMPLETED AT SITE, INDICATING ALL APPROPRIATE INSTALLATION DETAILS AND DEPTH READINGS. A COPY OF THE REPORT SHALL BE SUBMITTED AT COMPLETION OF THE WORK TO PCA FOR RECORDS.
- THE MINIMUM SERVICE LOADING (WORKING LOADS) THAT SHALL BE USED IN DESIGN OF THE MICROPILE SYSTEM ARE SHOWN ON THE LOADING DIAGRAM AND LOADING TABLE.
- MINIMUM PILE DIAMETER SHOULD BE 140 mm (5.5 INCHES).
- MINIMUM PILE LENGTH SHOULD BE 12 METERS.
- DUE TO FUTURE SCOUR IN THE RIVER BED DESIGN OF MICROPILES SHALL BE BASED ON AN UNSUPPORTED LENGTH OF 5 METERS FROM UNDERSIDE OF THE ABUTMENTS.
- MINIMUM FOUR(4) PILES UNDER EACH ABUTMENT SHALL BE DESIGNED AND INSTALLED IN BATTERED POSITION WITH SLOPE ANGLE OF MINIMUM 1H:5V.
- THE MICROPILES SHOULD BE DESIGNED FOR AN ALLOWABLE SKIN FRICTION OF 30 KPA THAT WILL BE VERIFIED AT SITE BY TESTING.
- THE SKIN FRICTION SHOULD BE NEGLECTED IN THE TOP FIVE(5) METERS OF THE PILES.
- FROST JACKING FORCES ARE NOT INCLUDED IN THE SERVICE LOADS SHOWN ON LOADING TABLE AND MUST BE CALCULATED AND CONSIDERED IN THE MICROPILE DESIGN.
- STEEL PILES SHOULD BE FILLED WITH TYPE HS HIGH SULFATE-RESISTANT HYDRAULIC CEMENT GROUT WHICH IS A MIXTURE OF CEMENT AND FINE AGGREGATE WITH A MINIMUM COMPRESSIVE STRENGTH OF 35 MPa.
- MECHANICAL COUPLERS FOR SPlicing HIGH STRENGTH REINFORCEMENT SHALL PROVIDED WITH MIN. 125% YIELD CAPACITY OF MAIN REINFORCEMENT.
- IF MACHINE THREADED JOINTS ARE USED FOR SPlicing OF THE PILE MAIN STEEL CASING, THE THICKNESS OF THE PILE SHALL BE DESIGNED SUCH THAT THE REMAINING SECTION AFTER THREADING CAN SAFELY SUPPORT THE APPLIED LOADS. JOINT DESIGN AND TEST DATA TO VERIFY ADEQUACY OF THE JOINT DETAIL SHALL BE SUBMITTED WITH DESIGN CALCULATION.

**CONTINUED:**

- IF WELDED JOINTS ARE USED FOR SPlicing PILE MAIN STEEL CASING, THE SPICE SHALL BE CONSIST OF FULL STRENGTH COMPLETE PENETRATION GROOVE WELDS OR COMBINATION OF A COLLAR AND CONTINUOUS FILLET WELDS AT EACH END.
- WELDING PROCEDURE AND WELDER QUALIFICATIONS SHALL CONFORM TO CSA W59 AND CSA W47.1. ELECTRODES CLASSIFICATION SHALL CONFORM TO CSA W48.1.
- VERIFICATION AND PROOF TESTING OF THE PILES SHALL BE CARRIED OUT TO DETERMINE THE CAPACITY OF THE INSTALLED PILES. THE COMPRESSION LOAD TESTING SHOULD BE COMPLETED IN ACCORDANCE WITH REQUIREMENTS OF ASTM D1143. A MINIMUM OF ONE PILE ON EACH ABUTMENT SHALL BE TESTED.
- VERIFICATION AND LOAD TESTING OF THE PILES SHALL BE CARRIED OUT TO A MAX. LOAD EQUAL TO TWO TIMES OF THE DESIGN LOADS. THE PROCEDURE SHALL BE COMPLETED IN FOUR (4) CYCLES WITH RECORDING OF THE CREEP. THE MAGNITUDE OF THE CREEP MEASURED AT THE VERIFICATION AND PROOF TESTING STAGE SHALL COMPLY WITH DESIGN AND ACCEPTED CRITERIA FOR THE PILES.
- THE FIRST MICROPILE UNDER EACH ABUTMENT SHALL BE TESTED PRIOR TO INSTALLATION OF THE OTHER ABUTMENT PILES TO VERIFY SOIL SUB SURFACE CONDITION AND DESIGN ASSUMPTION.



**LOADING TABLE**

DESCRIPTION	DEAD LOAD $P_D$ KN	LIVE LOAD $P_L$ KN	SNOW LOAD $P_S$ KN	WIND LOAD		BACKFILL PRESSURE	MAX. LATERAL PILE DISPLACEMENT mm
				$P_{WV}$ KN	$P_{WH}$ KN		
LOADING REACTION	65	40	35	+10	10	AS SHOWN ON LOADING DIAGRAM	6.5

- \*1 LOADS ARE UNFACTORED.
- \*2 WEIGHT OF THE CONCRETE FOUNDATION HAS BEEN INCLUDED IN  $P_D$
- \*3 WEIGHT OF THE SNOW MOBILE & TRACK HAVE BEEN INCLUDED IN  $P_S$

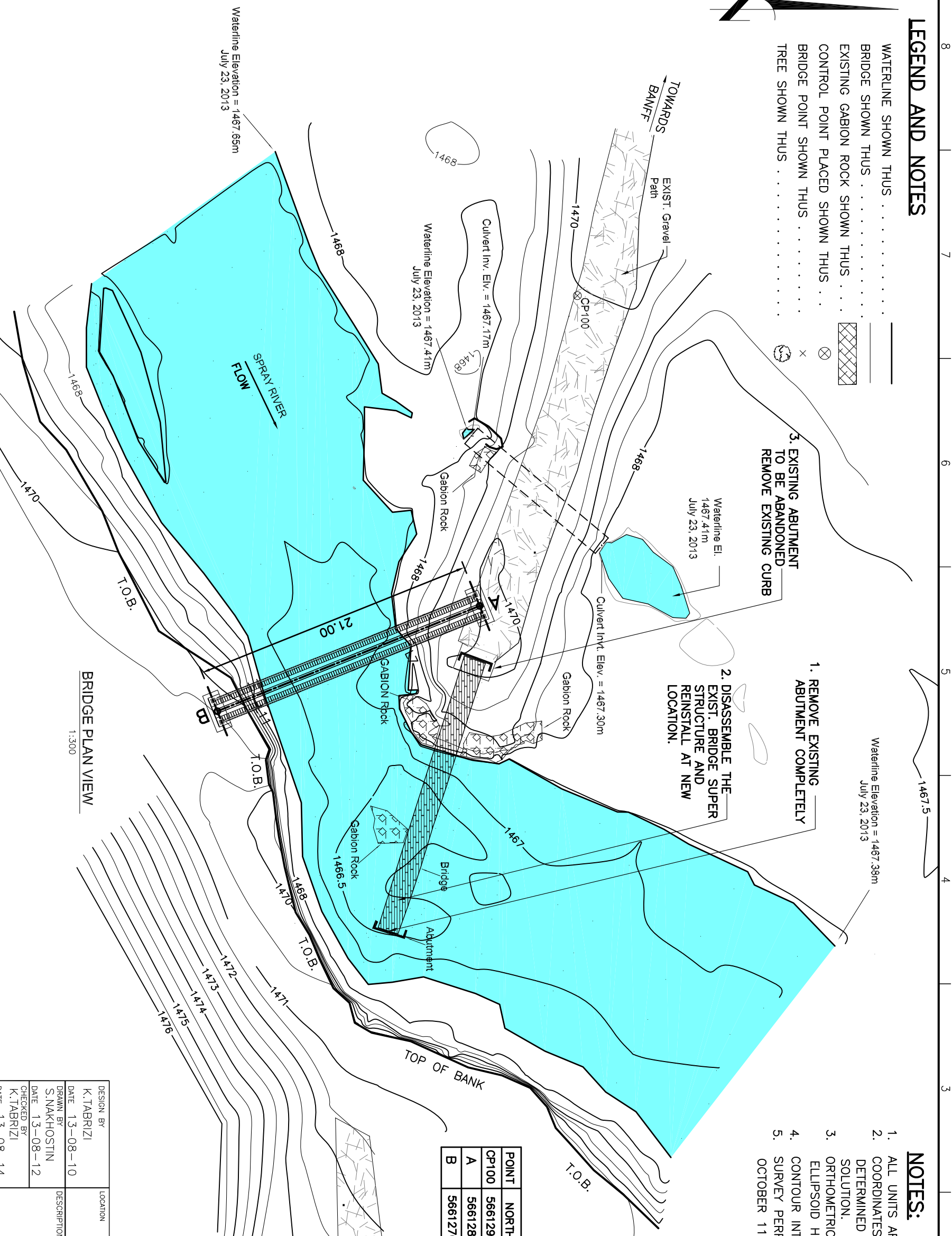
DESIGN BY K.TABRIZI DATE 13-09-21	LOCATION PARKS CANADA AGENCY
DRAWN BY S.NAKHOSTIN DATE 13-09-28	DESCRIPTION/TITLE SPRAY RIVER BRIDGE GENERAL NOTES
CHECKED BY K.TABRIZI DATE 13-10-03	
APPROVED BY M.DEE DATE 13-10-07	RYMAD ENGINEERING INC.
SCALE AS SHOWN	REF NO/PROJECT NO 101-14-04
	OLD DRAWING NUMBER

REFERENCE NUMBER	DRAWING TITLE	NO.	DATE	DESCRIPTION	REVISIONS
		B	13-11-02	RE-ISSUED FOR BID	
		A	13-10-07	ISSUED FOR BID	
				SHN KGT	KGT
				SHN KGT	KGT
				DWN CHD	ENG

### LEGEND AND NOTES

- WATERLINE SHOWN THUS .....
- BRIDGE SHOWN THUS .....
- EXISTING GABION ROCK SHOWN THUS .....
- CONTROL POINT PLACED SHOWN THUS .....
- BRIDGE POINT SHOWN THUS .....
- TREE SHOWN THUS .....

1. REMOVE EXISTING ABUTMENT COMPLETELY
2. DISASSEMBLE THE EXIST. BRIDGE SUPER STRUCTURE AND REINSTALL AT NEW LOCATION.
3. EXISTING ABUTMENT TO BE ABANDONED REMOVE EXISTING CURB



Waterline Elevation = 1467.38m  
July 23, 2013

### NOTES:

1. ALL UNITS ARE IN METERS.
2. COORDINATES ARE BASED ON NAD 83 (CSRS)/UTM ZONE 11 GRID; DETERMINED BY A MULTI FREQUENCY GNSS PRECISE POINT (PPP) SOLUTION.
3. ORTHOMETRIC HEIGHTS ARE DERIVED FROM NAD83 (CSRS) ELLIPSOID HEIGHTS AND THE GEIOD MODEL HTV2.0.
4. CONTOUR INTERVAL IS 0.5m.
5. SURVEY PERFORMED BY MEASUREMENT SCIENCES INC (MSI) ON OCTOBER 11, 2011 & JULY 23, 2013.

### COORDINATES

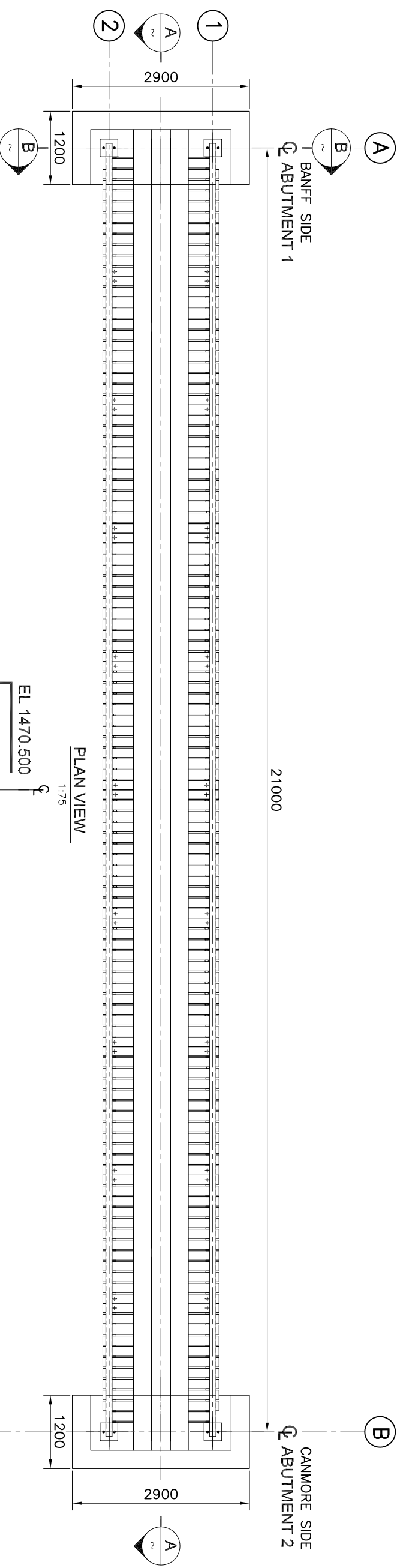
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP100	5661297.235	604397.572	1470.095	CONTROL
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B	5661270.487	604428.251	1470.170	CONC. ABUT. "2" CENTER

BRIDGE PLAN VIEW  
1:300

REFERENCE NUMBER	DRAWING TITLE	NO.	DATE	DESCRIPTION	REVISIONS

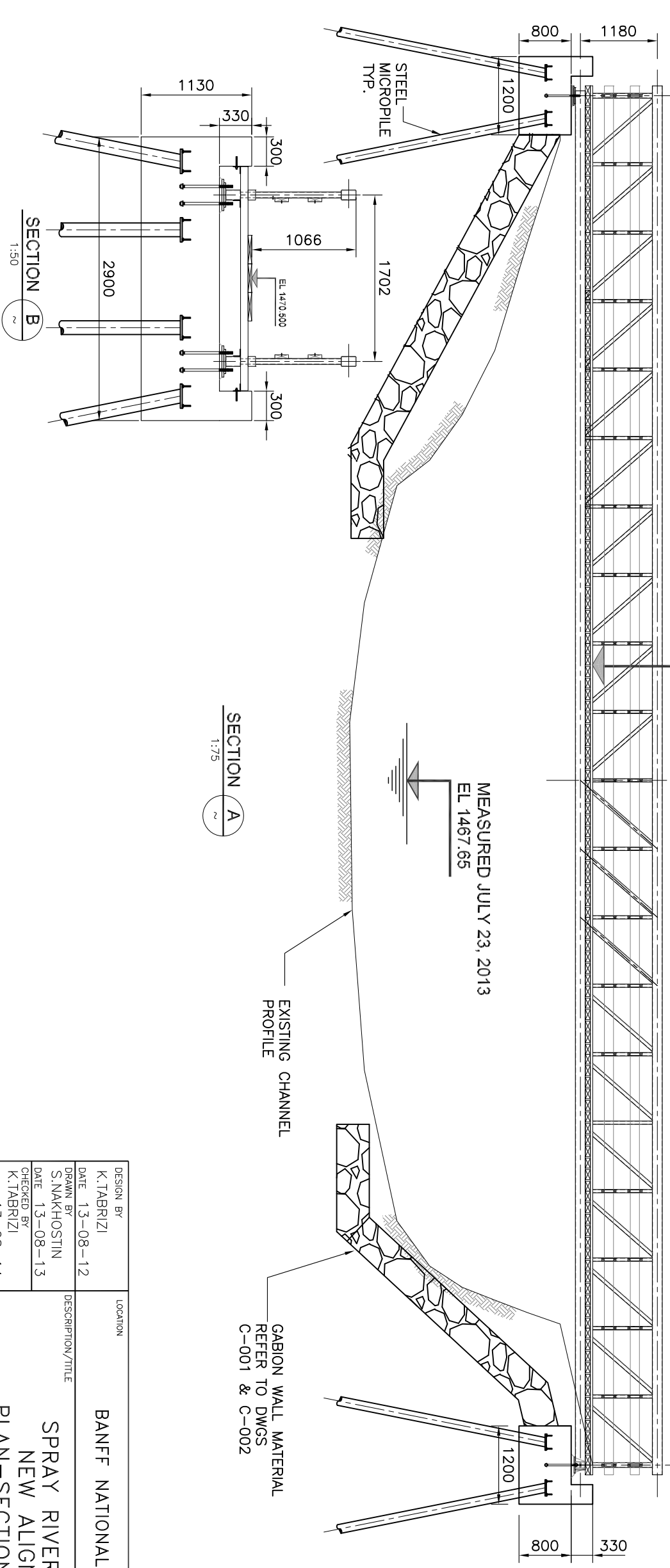
DESIGN BY K.TABRIZI DATE 13-08-10	LOCATION PARKS CANADA AGENCY
DRAWN BY S.NAKHOSTIN DATE 13-08-12	DESCRIPTION/TITLE SPRAY RIVER BRIDGE NEW ALIGNMENT GENERAL ARRANGEMENT
CHECKED BY K.TABRIZI DATE 13-08-14	
APPROVED BY M.DEE DATE 13-08-16	RYMAD ENGINEERING INC.
SCALE 1:300	REF NO/PROJECT No 111-10-01
SHT 1 OF 1	OLD DRAWING NUMBER
	S-002
	REVISION C

PLEASE REFER TO DOC FOR LATEST RELEASED REVISION



1471.00
1470.00
1469.00
1468.00
1467.00
1466.00

1471.00
1470.00
1469.00
1468.00
1467.00
1466.00



SECTION B  
1:50

SECTION A  
1:75

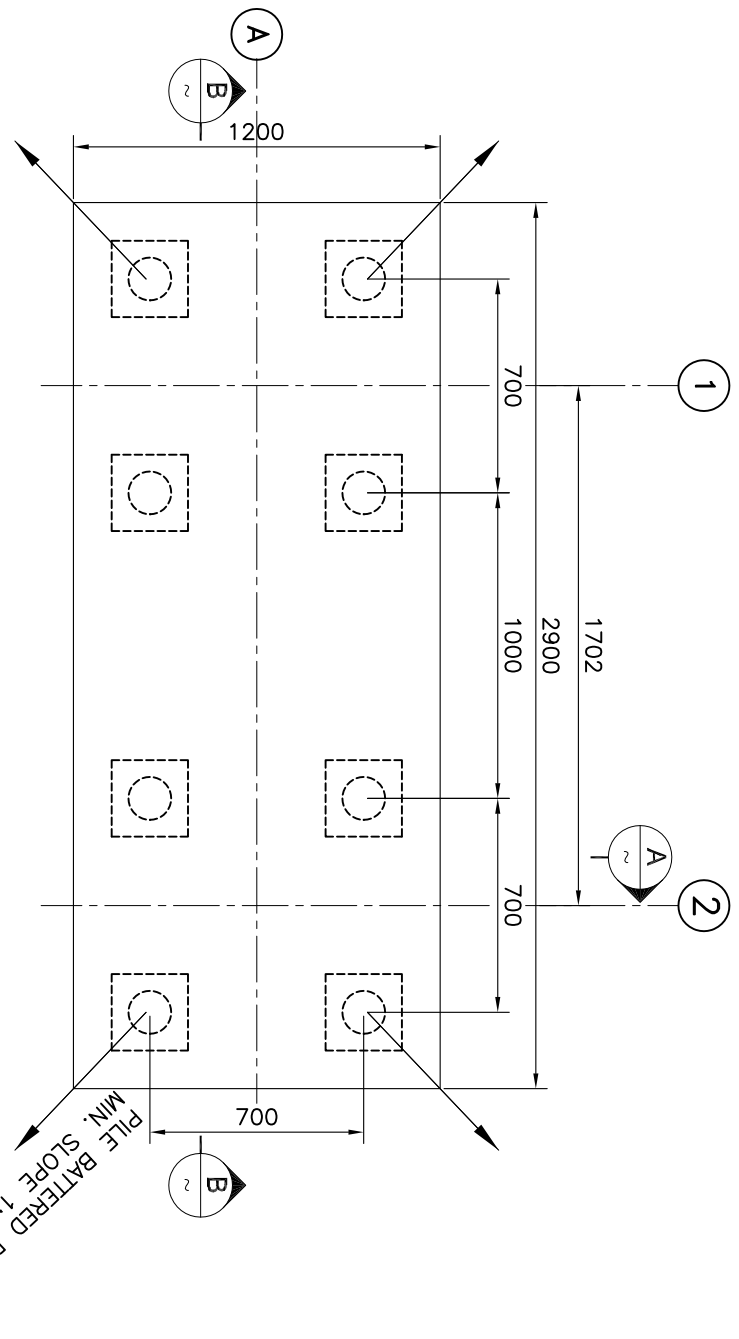
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DATE 13-08-12
DRAWN BY S. NAKHOSTIN
DATE 13-08-13
CHECKED BY K. TABRIZI
DATE 13-08-14
APPROVED BY M. DEE
DATE 13-08-16

LOCATION BANFF NATIONAL PARK
DESCRIPTION/TITLE SPRAY RIVER BRIDGE NEW ALIGNMENT PLAN-SECTIONS A & B
RYMAD ENGINEERING INC.
REF. NO./PROJECT No 111-10-01
SCALE AS SHOWN
OLD DRAWING NUMBER

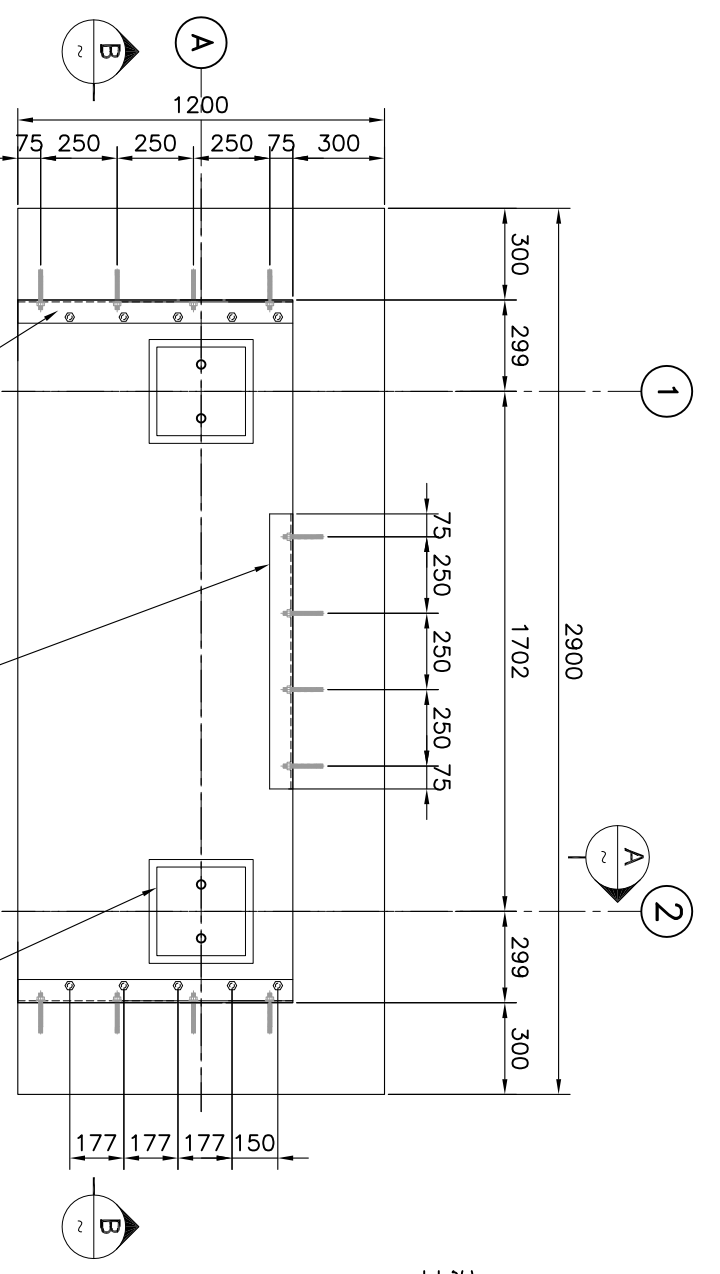
REVISIONS	NO.	DATE	DESCRIPTION
C	13-11-02		RE-ISSUED FOR BID
B	13-09-12		ISSUED FOR BID
A	13-08-16		ISSUED FOR REVIEW

DESIGN BY K. TABRIZI	SHN KGT KGT
DATE 13-08-12	SHN KGT KGT
DRAWN BY S. NAKHOSTIN	SHN KGT KGT
DATE 13-08-13	SHN KGT KGT
CHECKED BY K. TABRIZI	DWN CHD ENG
DATE 13-08-14	
APPROVED BY M. DEE	
DATE 13-08-16	

REFERENCE NUMBER	DRAWING TITLE	REVISION
REFERENCE DRAWINGS		C
S-003		
PLEASE REFER TO DOC FOR LATEST RELEASED REVISION		



**PROPOSED PILING LAYOUT FOR ABUTMENT "1"**  
1:25 SEE NOTE 1

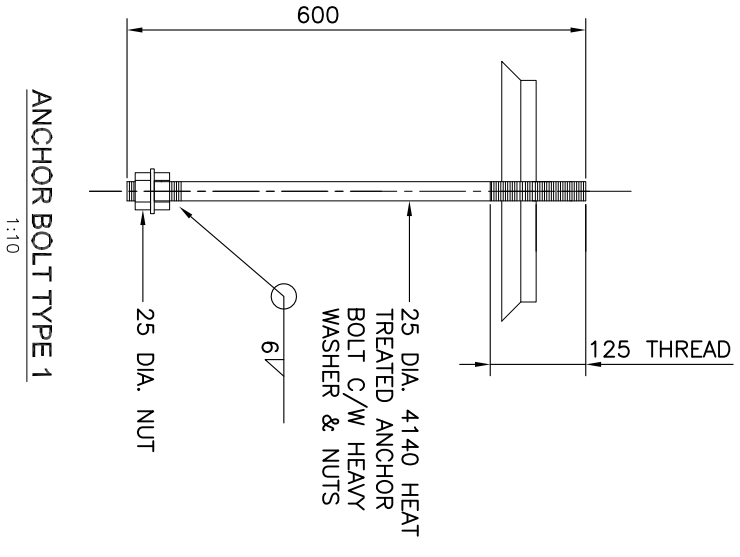
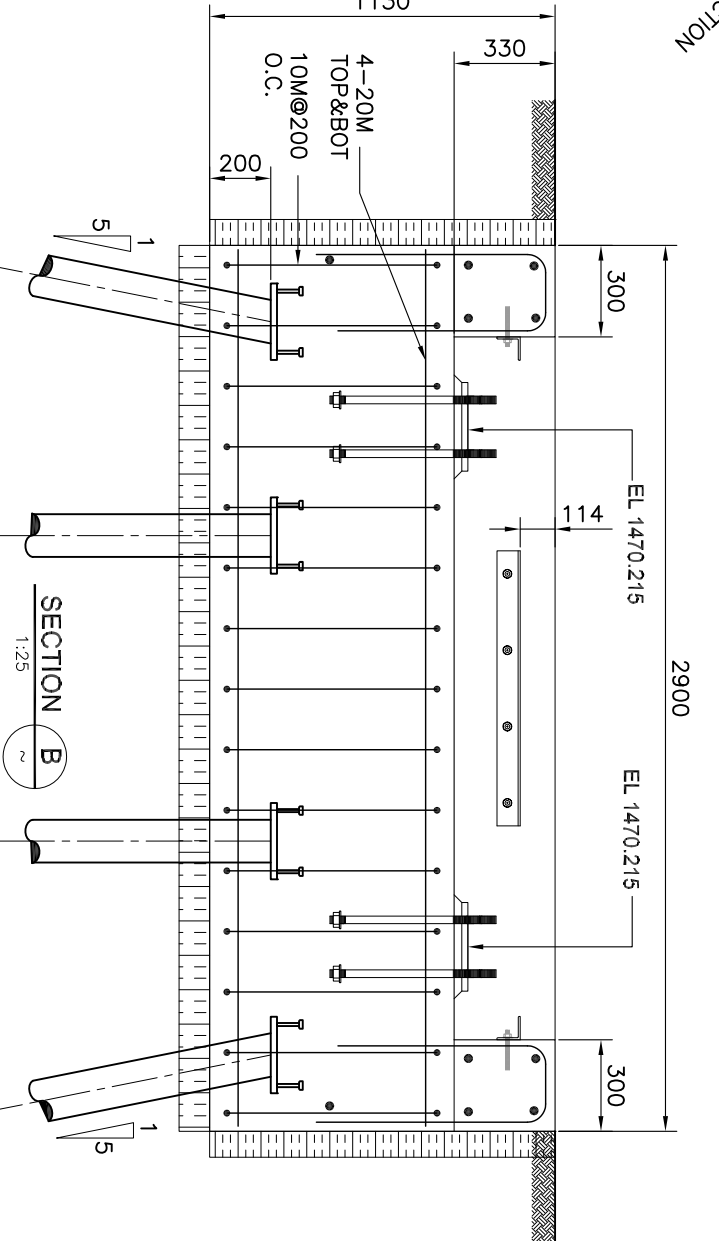
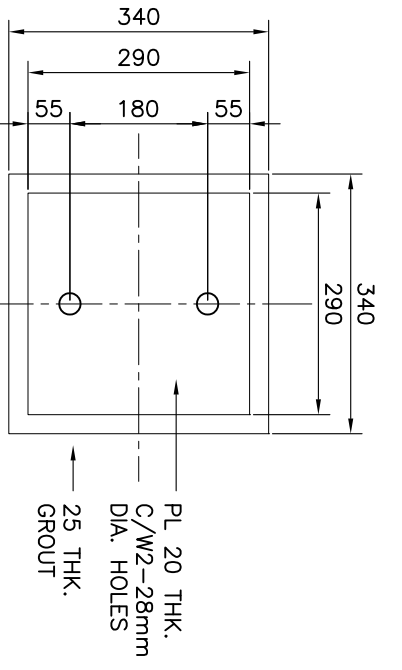
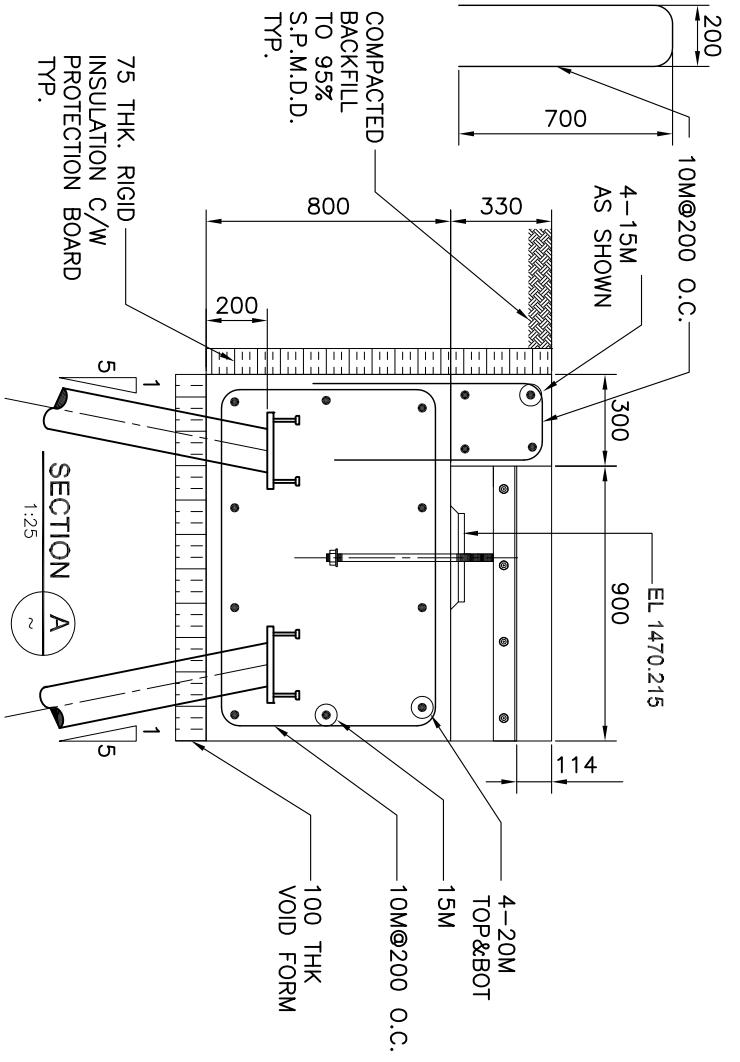


L 76X76X6.4 900 LG.  
C/W 4-12 DIA.  
HILTI HIT-TZ RODS,  
MIN. EMBED 102  
& 2-M16 NUTS  
WELDED TO U/S  
OF ANGLE TYP.

L 76X76X6.4 900  
LG. C/W 4-12 DIA.  
HILTI HIT-TZ RODS,  
MIN. EMBED 102

**ABUTMENT "1"**  
1:25

BASE PLATE  
TYPE A SEE  
DETAIL 1



**NOTE:**  
1. CONTRACTOR SHALL DESIGN MICROPILE SYSTEM BASED ON THE LOADING AND OTHER DESIGN CRITERIA PROVIDED ON DRAWING S-001. FINAL QUANTITY AND CONFIGURATION OF THE PILES CAN BE DIFFERENT FROM WHAT ARE SHOWN IN THIS DRAWING.

DESIGN BY  
K. TABRIZI  
DATE 13-09-20

DRAWN BY  
S. NAKHOSTIN  
DATE 13-09-28

CHECKED BY  
K. TABRIZI  
DATE 13-10-01

APPROVED BY  
M. DEE  
DATE 13-10-03

LOCATION  
PARKS CANADA AGENCY

DESCRIPTION/TITLE  
SPRAY RIVER BRIDGE  
NEW ABUTMENT 1 CONSTRUCTION  
NEW PLAN, SECTIONS & DETAILS

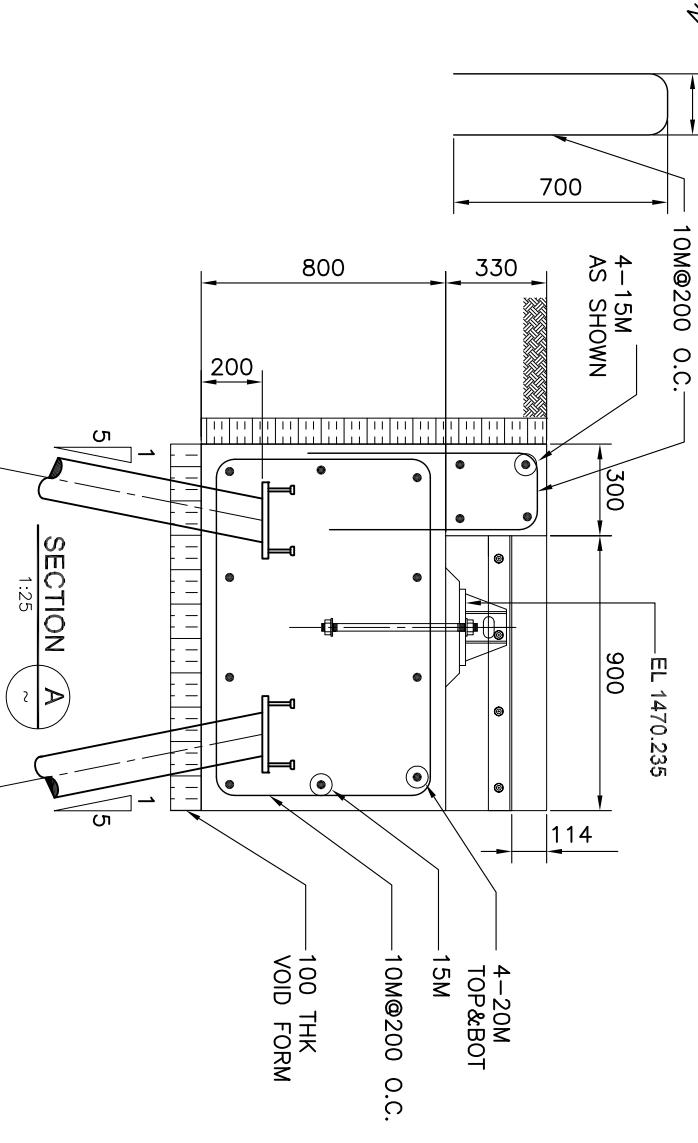
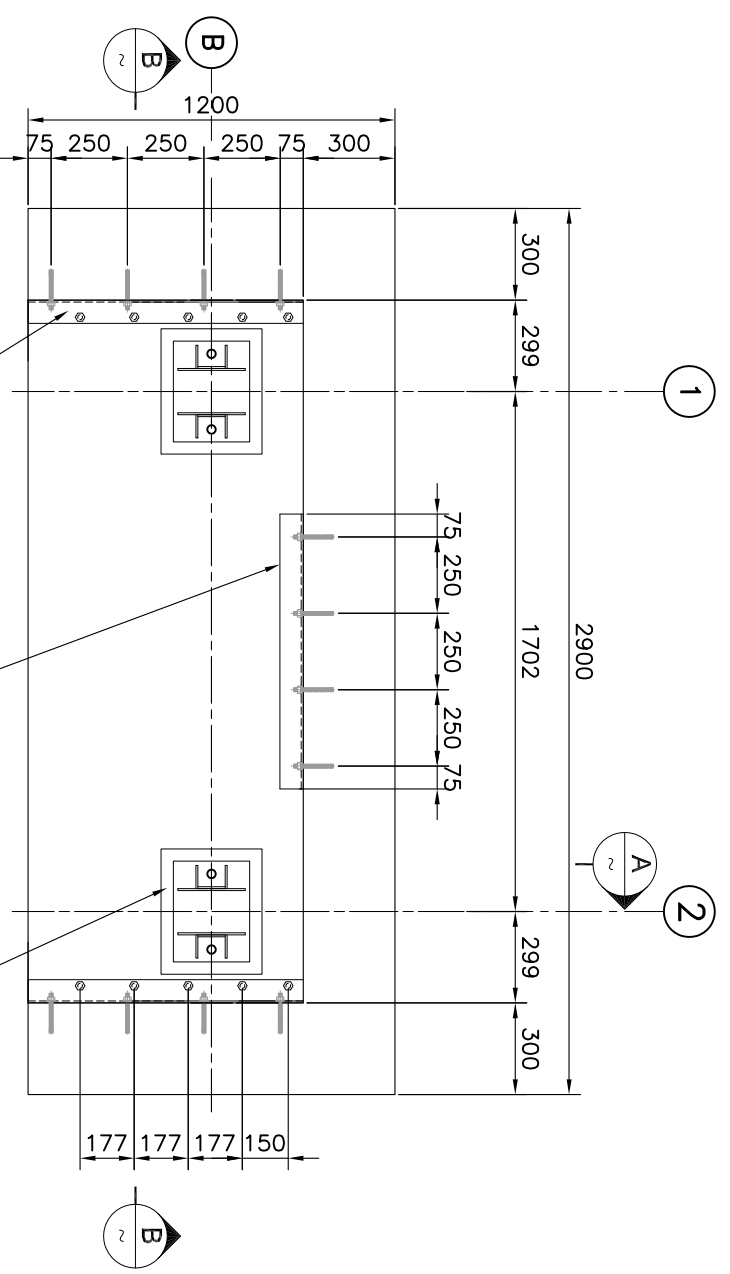
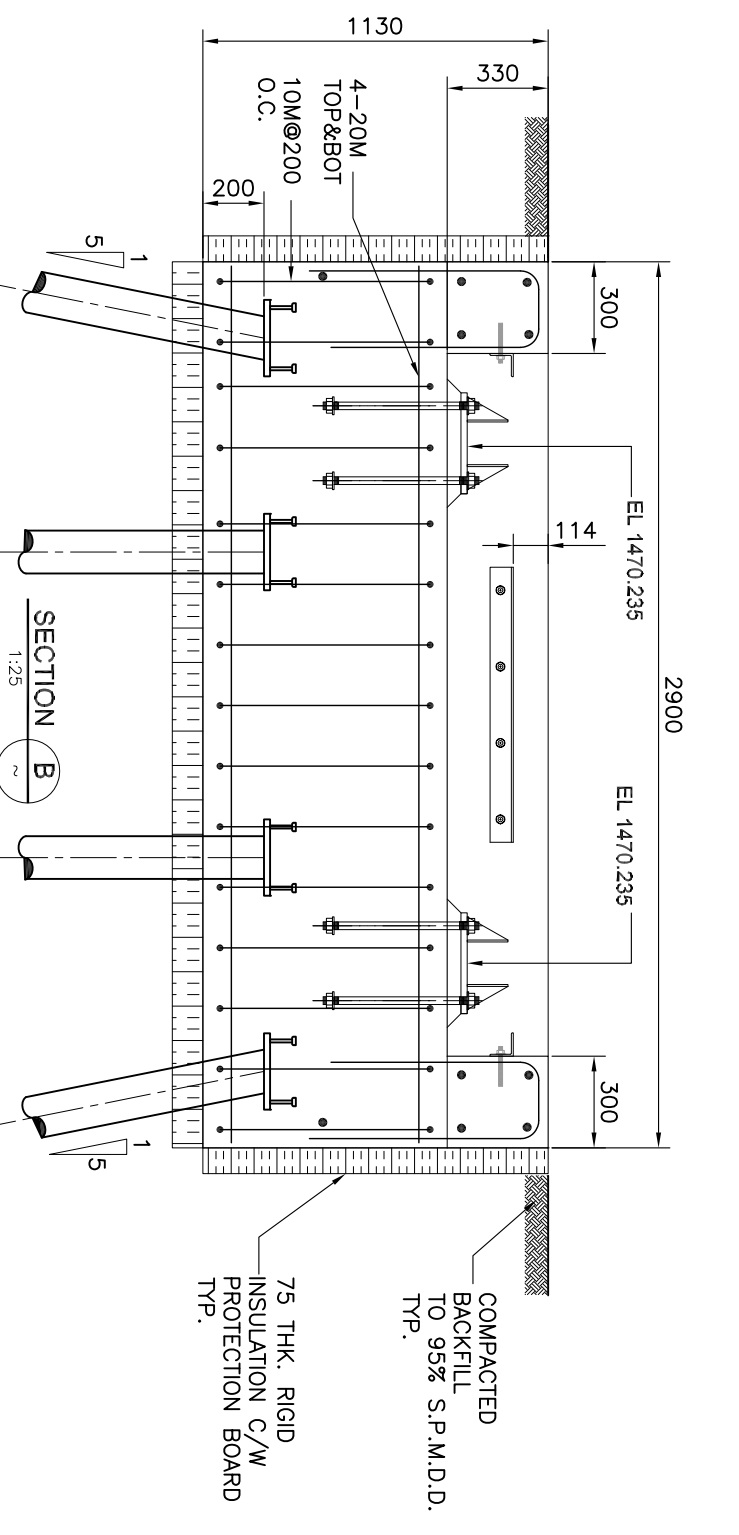
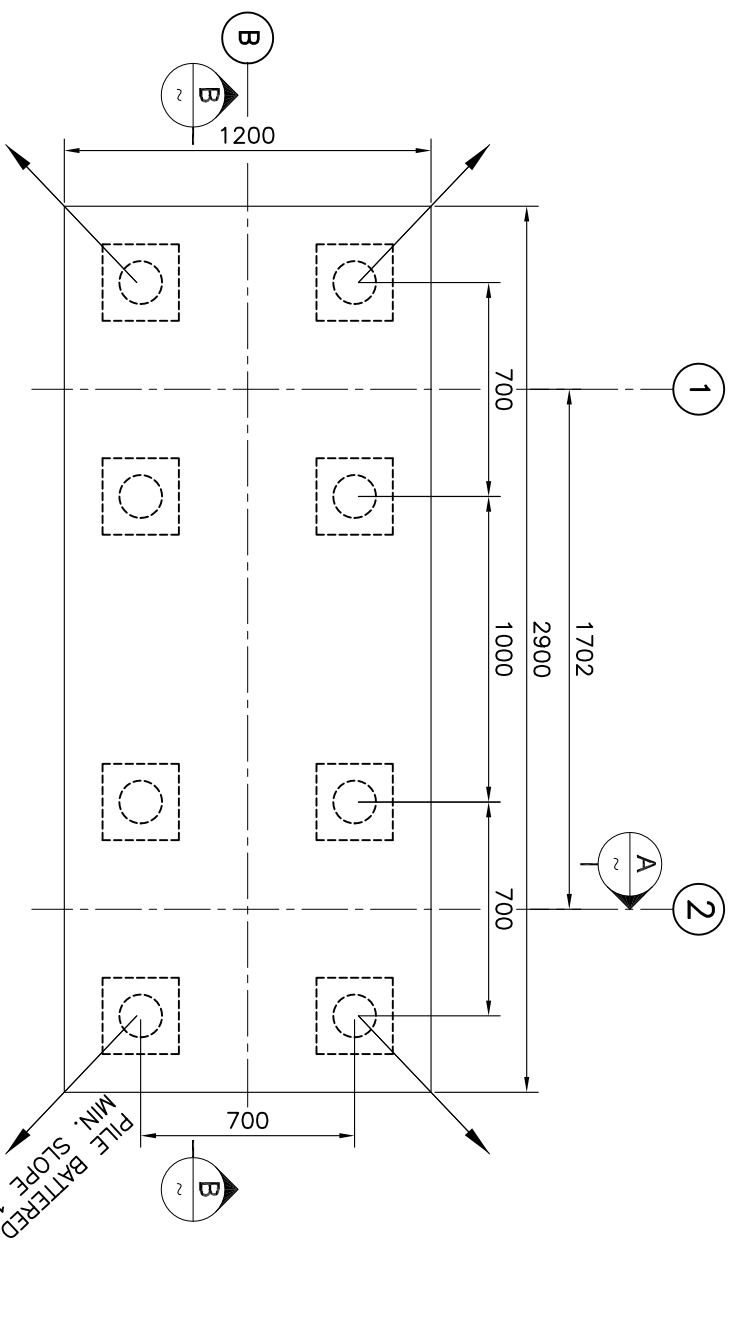
RYMAD ENGINEERING INC.

REFERENCE NUMBER	DRAWING TITLE	NO.	DATE	DESCRIPTION
A	~	A	13-10-03	ISSUED FOR BID
B	~	B	13-11-02	RE-ISSUED FOR BID

SHN	KG	KG
SHN	KG	KG
DWN	CHD	ENG

SCALE	REF. NO./PROJECT NO.
AS SHOWN	111-10-01

REV. NO.	REVISION
1	S-004



**NOTE:**

1. CONTRACTOR SHALL DESIGN MICROPILE SYSTEM BASED ON THE LOADING AND OTHER DESIGN CRITERIA PROVIDED ON DRAWING S-001. FINAL QUANTITY AND CONFIGURATION OF THE PILES CAN BE DIFFERENT FROM WHAT ARE SHOWN IN THIS DRAWING.

DESIGN BY K. TABRIZI DATE 13-09-20	LOCATION <b>PARKS CANADA AGENCY</b>
DRAWN BY S. NAKHOSTIN DATE 13-09-28	DESCRIPTION/TITLE <b>SPRAY RIVER BRIDGE NEW ABUTMENT 2 CONSTRUCTION PLAN, SECTIONS &amp; DETAILS</b>
CHECKED BY K. TABRIZI DATE 13-10-01	APPROVED BY M. DEE DATE 13-10-03
SCALE AS SHOWN	REF. NO./PROJECT NO. 111-10-01
SHT 1 OF 1	OLD DRAWING NUMBER

**RYMAD ENGINEERING INC.**

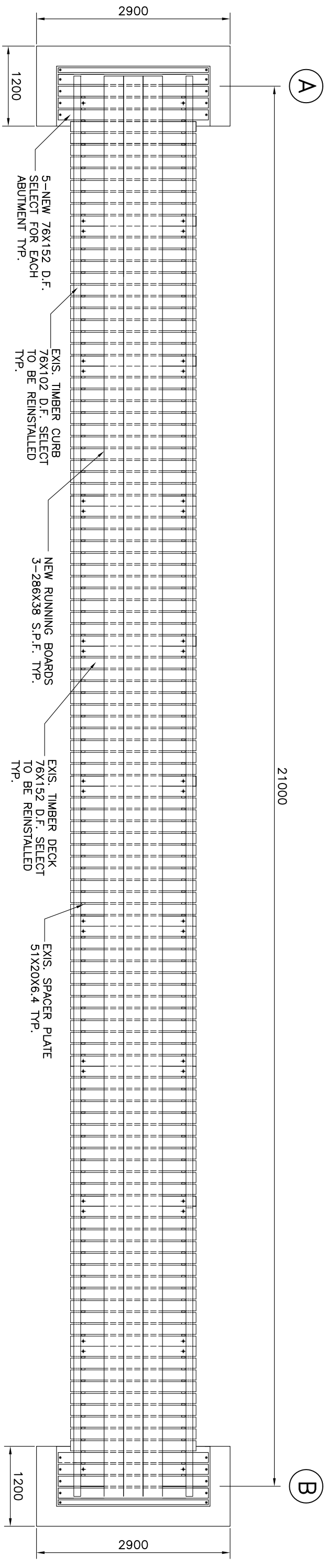
DESIGN TITLE	REVISIONS
NO.	DATE
A	13-10-03
B	13-11-02

ISSUED FOR BID

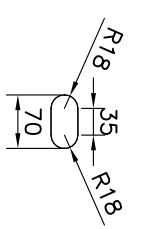
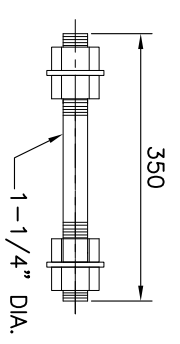
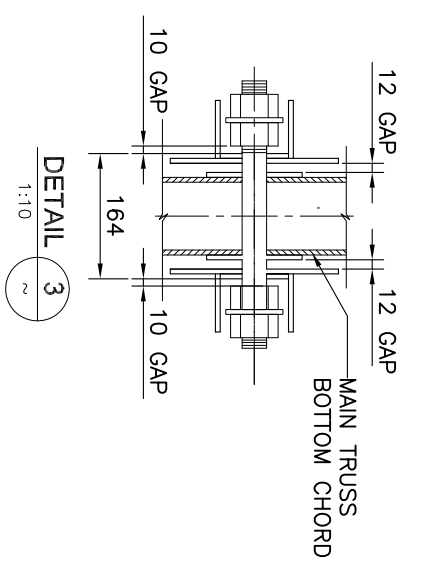
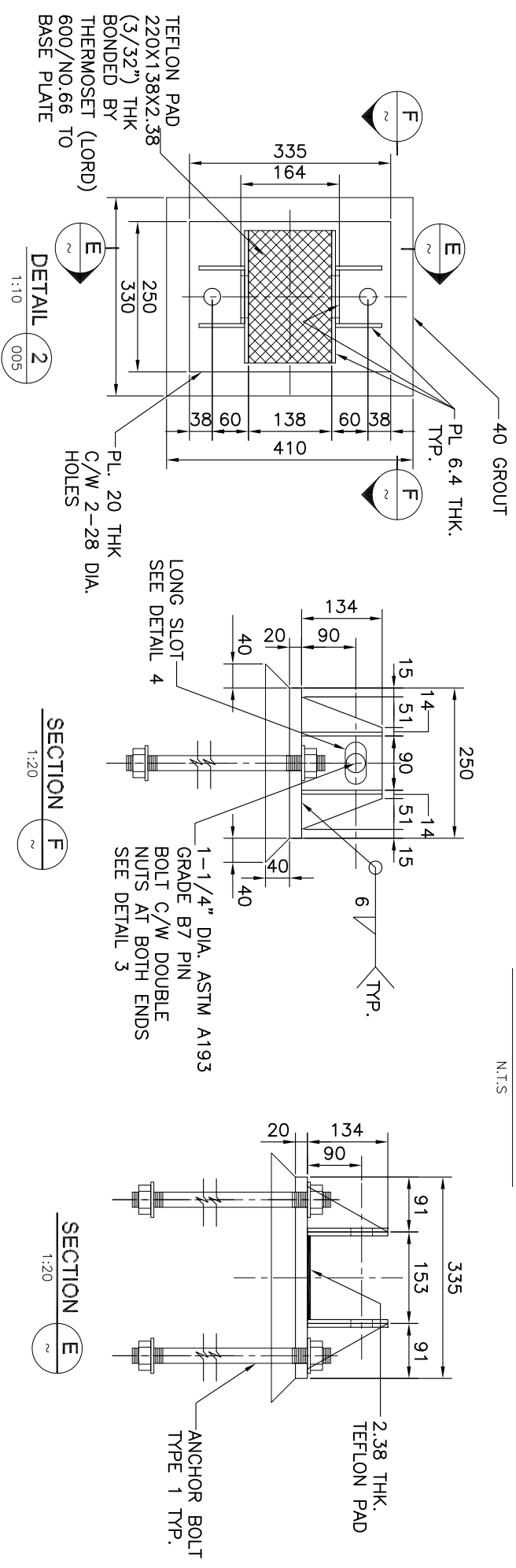
RE-ISSUED FOR BID

REFERENCE NUMBER	DESCRIPTION
DRAWING TITLES	DESCRIPTION
NO.	DATE
A	13-10-03
B	13-11-02

REVISIONS



PLAN - BRIDGE DECK  
N.T.S



**TIMBER DECK & RAILINGS**

WOOD SPECIFICATION FOR THOSE ELEMENTS OF THE BRIDGE DECK THAT NEED REPLACEMENT ARE AS FOLLOWS:

- WOOD MATERIAL, FABRICATION AND INSTALLATION SHALL CONFORM TO CAN/CSA 086.
- ALL WOOD MATERIAL SHALL BE PRESSURE TREATED BY CHROMATE COPPER ARSENATE (CCA) PRESERVATIVE.
- WOOD MATERIAL FOR DECK, CURBS & GUARDRAILS ARE AS FOLLOWS:
  - TIMBER DECK  
DOUGLAS FIR SELECT STRUCTURAL  
SIZE 3"x6" FULL SAWN (76X152mm)
  - CURBS  
DOUGLAS FIR GRADE NO.1 OR NO.2  
SIZE 3"x4" FULL SAWN (76X102mm)
  - RUNNING BOARDS  
S-P-F LUMBER NOMINAL SIZE  
2"x12" (38X286 mm)
  - RAILINGS  
S-P-F LUMBER NOMINAL SIZE  
2"x6" (38X140 mm)

DESIGN BY K.TABRIZI	DATE 13-09-20	LOCATION PARKS CANADA AGENCY
DRAWN BY S.NAKHOSTIN	DATE 13-10-01	DESCRIPTION/TITLE NEW BASE PLATE/DECK CONSTRUCTION PLAN, SECTIONS & DETAILS
CHECKED BY K.TABRIZI	DATE 13-10-02	APPROVED BY M.DEJ
SCALE AS SHOWN	DATE 13-10-03	SCALE AS SHOWN
REFERENCE NUMBER A	DRAWING TITLE DRAWINGS	REV. NO./PROJECT NO 111-10-01
NO.	DATE	DESCRIPTION
B	13-11-02	RE-ISSUED FOR BID
A	13-10-03	ISSUED FOR BID
		SHN KGT KGT
		SHN KGT KGT
		DWN/CHD/ENG

DESIGN BY K.TABRIZI	DATE 13-09-20	LOCATION PARKS CANADA AGENCY
DRAWN BY S.NAKHOSTIN	DATE 13-10-01	DESCRIPTION/TITLE NEW BASE PLATE/DECK CONSTRUCTION PLAN, SECTIONS & DETAILS
CHECKED BY K.TABRIZI	DATE 13-10-02	APPROVED BY M.DEJ
SCALE AS SHOWN	DATE 13-10-03	SCALE AS SHOWN
REFERENCE NUMBER A	DRAWING TITLE DRAWINGS	REV. NO./PROJECT NO 111-10-01
NO.	DATE	DESCRIPTION
B	13-11-02	RE-ISSUED FOR BID
A	13-10-03	ISSUED FOR BID
		SHN KGT KGT
		SHN KGT KGT
		DWN/CHD/ENG

S-006

B

PLEASE REFER TO DOC FOR LATEST RELEASED REVISION