

GENERAL NOTES

- CONTRACTOR TO VERIFY ALL DIMENSIONS FOR THE BRIDGE PRIOR TO COMMENCEMENT OF WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
- STRUCTURAL DRAWINGS SHOW THE COMPLETED PROJECT. THEY DO NOT SHOW COMPONENTS WHICH MAY BE NECESSARY FOR CONSTRUCTION SAFETY. CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND ABOUT THE JOB SITE DURING CONSTRUCTION.
- CONTRACTOR TO ENSURE THAT ALL WORK IS CARRIED OUT BY THE RULES AND CUSTOMS OF THE BEST TRADE PRACTICES AND THEIR SPECIFICATIONS BY SKILLED TRADES PEOPLE KNOWLEDGEABLE OF THE TYPE OF CONSTRUCTION. THEY ARE TO BE PROPERLY EQUIPPED AND SUPERVISED.
- SURVEY AND HYDROTECHNICAL DATA PROVIDED BY McELHANNEY CONSULTING SERVICES LTD. REPORT DATED JANUARY 31, 2013 AND DRAWINGS DATED JANUARY 15, 2013.
- UNLESS OTHERWISE NOTED, DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS ARE IN METRES.
- ALL DESIGN CODES AND CSA AND ASTM STANDARDS REFERENCED ON THESE DRAWINGS SHALL BE THE CURRENT VERSIONS.

DESIGN NOTES

- STRUCTURAL DESIGN DATA.
 - ENGINEER OF RECORD: RANDALL EMERY, P.ENG.
 - DESIGN CODE - CANADIAN HIGHWAY BRIDGE DESIGN CODE 2006. PARKS CANADA - DIRECTIVE FOR DESIGN, CONSTRUCTION, AND INSPECTION OF VEHICULAR AND PEDESTRIAN BRIDGES - 2008.

DESIGN PARAMETERS

GRAVITY: DEAD LOAD = SELF-WEIGHT
 LIVE LOAD = 4.0 kPa
 SNOW LOAD = 6.1 kPa

ICE ACCRETION: MODERATE (12mm ON ALL EXPOSED SURFACES)

WIND: $q/50 = 0.50$ kPa

SEISMIC: $Z_v = 1.0$
 $V = 0.05$
 $Z_a = 0$
 $A = 0.00$
 SEISMIC PERFORMANCE ZONE 1
 SOIL PROFILE III (ASSUMED)
 $S = 1.5$
 $K = 1.0$

FOUNDATION NOTES

- CONTRACTOR IS RESPONSIBLE FOR RETAINING A PROFESSIONAL GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA FOR THE DESIGN AND FIELD REVIEW OF SOIL BEARING CAPACITIES AND MICRO-PILES. SOIL BEARING CAPACITIES AND MICRO-PILE DESIGN TO BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE.
- FOOTINGS HAVE BEEN DESIGNED FOR A SERVICEABILITY LIMIT STATE BEARING PRESSURE OF 150 kN/m^2 AND AN ULTIMATE LIMIT STATE BEARING PRESSURE OF 225 kN/m^2 TO BE VERIFIED BY THE GEOTECHNICAL ENGINEER. FOOTINGS TO BEAR ON UNDISTURBED NATIVE SOILS OR COMPACTED STRUCTURAL FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- MICRO-PILE EMBEDMENT LENGTHS TO BE DESIGNED BY THE GEOTECHNICAL ENGINEER AND IN ACCORDANCE WITH DETAIL S/S301.
- MICRO-PILE LOADS (PER PILE):
 WORKING LOAD = 120 kN
 LOCK OFF LOAD = 25 kN
 TEST LOAD = 120 kN
- BEARING SURFACES AND MICRO-PILE INSTALLATION MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO FOOTING CONCRETE BEING PLACED. GENIVAR IS NOT RESPONSIBLE FOR CONFIRMING BEARING CAPACITIES OF SOILS. CONTRACTOR RESPONSIBLE FOR NOTIFYING DEPARTMENTAL REPRESENTATIVE IN ADVANCE FOR CONSTRUCTION REVIEW OF THE WORK.
- GEOTECHNICAL ENGINEER TO PROVIDE OTHER SPECIFIC DESIGN REQUIREMENTS FOR FOOTINGS, SOIL SLOPES, FROST PROTECTION, MINIMUM COVER, ETC.
- UNLESS OTHERWISE SHOWN, CENTER FOOTINGS UNDER COLUMNS AND WALLS.
- DOWELS AND ANCHOR BOLTS SHALL BE PLACED BEFORE CONCRETE IS PLACED. USE TEMPLATES TO ENSURE CORRECT PLACEMENT OF DOWELS.
- PROVIDE 50mm GROUND SEAL UNDER FOOTINGS WHERE REQUIRED BY SOIL CONDITIONS.
- FOOTING ELEVATIONS, IF SHOWN, ARE FOR BIDDING PURPOSES ONLY, ARE NOT FINAL, AND MAY VARY ACCORDING TO SITE CONDITIONS. ALL FOOTINGS MUST BE TAKEN TO A BEARING LAYER APPROVED BY THE GEOTECHNICAL ENGINEER.
- PROTECT BEARING SURFACES FROM FREEZING BEFORE AND AFTER FOOTINGS ARE POURED.

CONCRETE AND REINFORCING NOTES

- CONCRETE TO BE READY MIX CONCRETE CONFORMING TO THE CURRENT STANDARD CSA A23.1/A23.2. CEMENT TO BE TYPE MS OR MSb HYDRAULIC CEMENT CONFORMING TO CSA A3000. USE ADMIXTURES ONLY WITH WRITTEN APPROVAL OF THE DEPARTMENTAL REPRESENTATIVE.

LOCATION	28 DAY STRENGTH OF MPa	CLASS OF EXPOSURE
ALL LOCATIONS	30	S-3

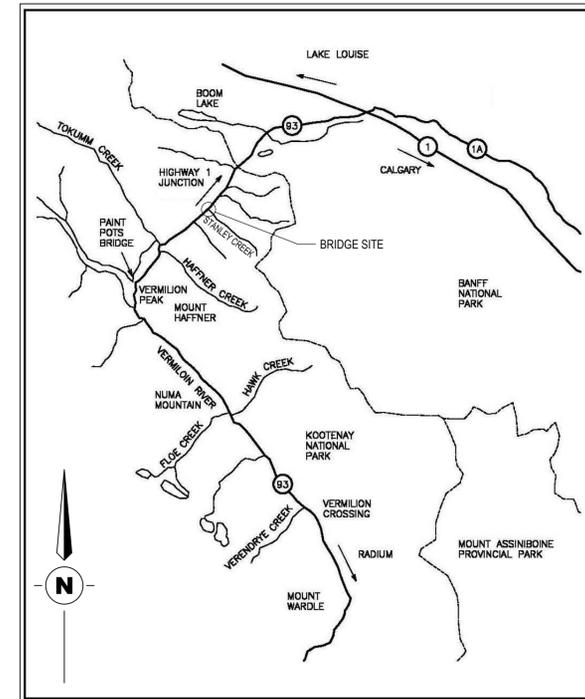
REFER TO PROJECT SPECIFICATIONS FOR OTHER REQUIREMENTS.

- CONCRETE PROTECTION ON PRINCIPAL REINFORCING SHALL BE AS FOLLOWS:
 SURFACES PLACED IN CONTACT WITH GROUND: 75mm
 FORMED SURFACES EXPOSED TO GROUND OR WEATHER: 60mm
- SINGLE CURTAIN WALL REINFORCING SHALL BE CENTERED IN WALLS UNLESS OTHERWISE SHOWN.
- HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND HOOKED AT WALL INTERSECTIONS. ADD 2-15M CONT AT TOPS AND ENDS OF WALLS. UNLESS OTHERWISE NOTED, HOOK AND LAP LENGTHS AS FOLLOWS:

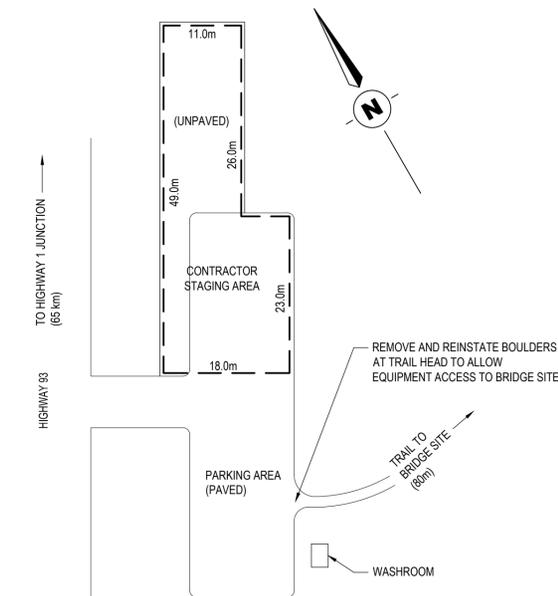
BAR SIZE	VERT LAP	HORL LAP	HOOK LENGTH
10M	430mm [17"]	500mm [20"]	180mm [7"]
15M	600mm [24"]	800mm [32"]	250mm [10"]
20M	750mm [30"]	1000mm [40"]	300mm [12"]
25M	1200mm [48"]	1550mm [60"]	400mm [16"]

STRUCTURAL STEEL NOTES

- STRUCTURAL STEEL TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
 ROLLED SECTIONS: ASTM A588
 PLATE: G40.21 350AT
 CHANNELS & ANGLES: G40.21 300W
 PIPE: A53 Fy=240 MPa
 HSS SECTIONS: G40.21 350W
 BOLTS: ASTM A325 TYPE 3, SELF-WEATHERING
 ANCHOR BOLTS: G40.21 300W (HDG)



LOCATION PLAN
 SCALE: N.T.S.



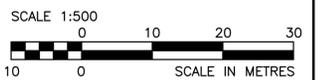
1 PARKING AREA SITE PLAN
 S101 1:500

ABBREVIATIONS:

- CL - CLEAR
- CP - COMPLETE PENETRATION
- (E) - EXISTING
- EF - EACH FACE
- EL - ELEVATION
- EW - EACH WAY
- FTG - FOOTING
- HBE - HOOK BOTH ENDS
- HDG - HOT-DIPPED GALVANIZED
- LG - LONG
- MAX - MAXIMUM
- MIN - MINIMUM
- OC - ON CENTER
- OPP - OPPOSITE
- PL - PLATE
- PT - PRESSURE TREATED
- SIM - SIMILAR
- T&B - TOP AND BOTTOM
- T/O - TOP OF
- TYP - TYPICAL
- UNO - UNLESS NOTED OTHERWISE
- U/S - UNDERSIDE

DRAWING LIST

- S101 - PARKING AREA SITE PLAN, LOCATION PLAN, GENERAL NOTES
- S102 - BRIDGE AREA SITE PLAN
- S201 - DEMOLITION PLAN, ELEVATION, SECTIONS AND DETAILS
- S202 - GENERAL ARRANGEMENT
- S203 - EAST AND WEST ABUTMENT PLANS, ELEVATIONS AND SECTIONS
- S301 - EAST AND WEST ABUTMENT SECTIONS AND DETAILS
- S302 - STEEL SECTIONS AND DETAILS
- S303 - RAILING ELEVATION, SECTIONS AND DETAILS, STAIR SECTIONS



Revision/Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	13/12/06

Client/client

PARKS CANADA AGENCY

Project title/Titre du projet
KOOTENAY NATIONAL PARK

STANLEY GLACIER TRAIL BRIDGE VERMILION RIVER

Consultant Signature Only

Designed by/Concept par
 RGE

Drawn by/Dessiné par
 RCM

PWGSC Project Manager/Administrateur de Projets TPSGC
 MARCI TONDER / JIMMY WONG

Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 OREST KLUFAS (Acting)

Drawing title/Titre du dessin

PARKING AREA SITE PLAN LOCATION PLAN GENERAL NOTES

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R.061077.001

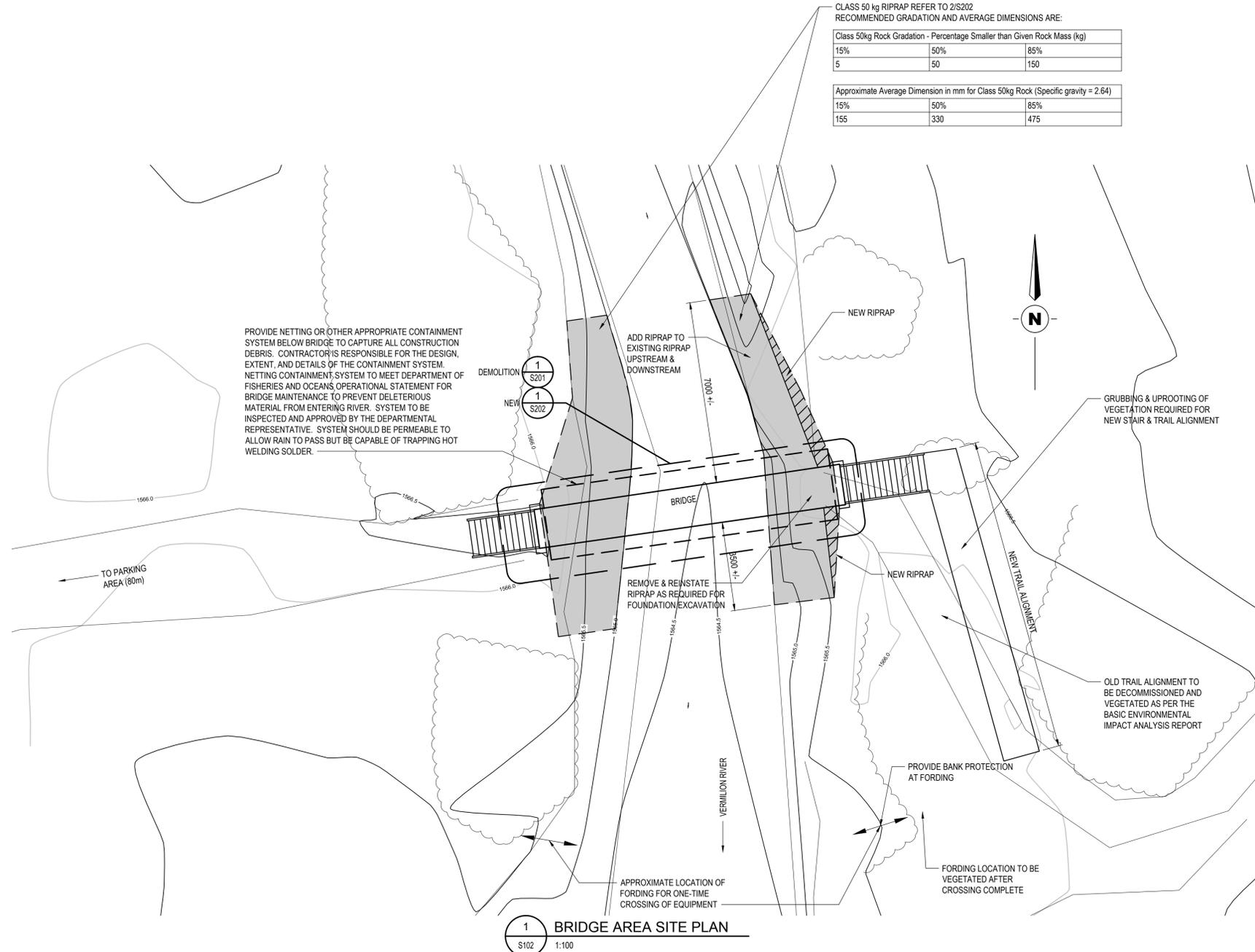
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S101
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CLASS 50 kg RIPRAP REFER TO 2/S202
 RECOMMENDED GRADATION AND AVERAGE DIMENSIONS ARE:

Class 50kg Rock Gradation - Percentage Smaller than Given Rock Mass (kg)		
15%	50%	85%
5	50	150

Approximate Average Dimension in mm for Class 50kg Rock (Specific gravity = 2.64)		
15%	50%	85%
155	330	475



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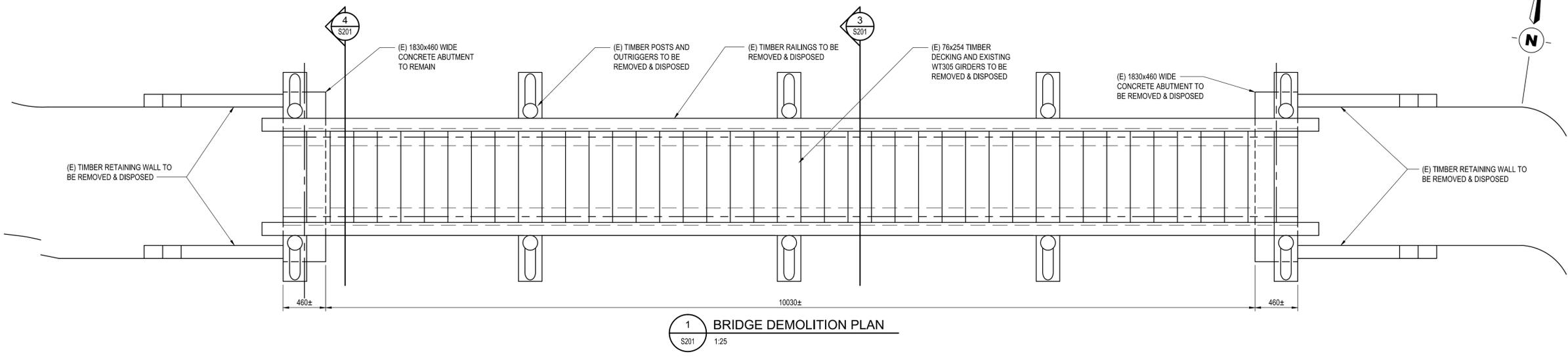
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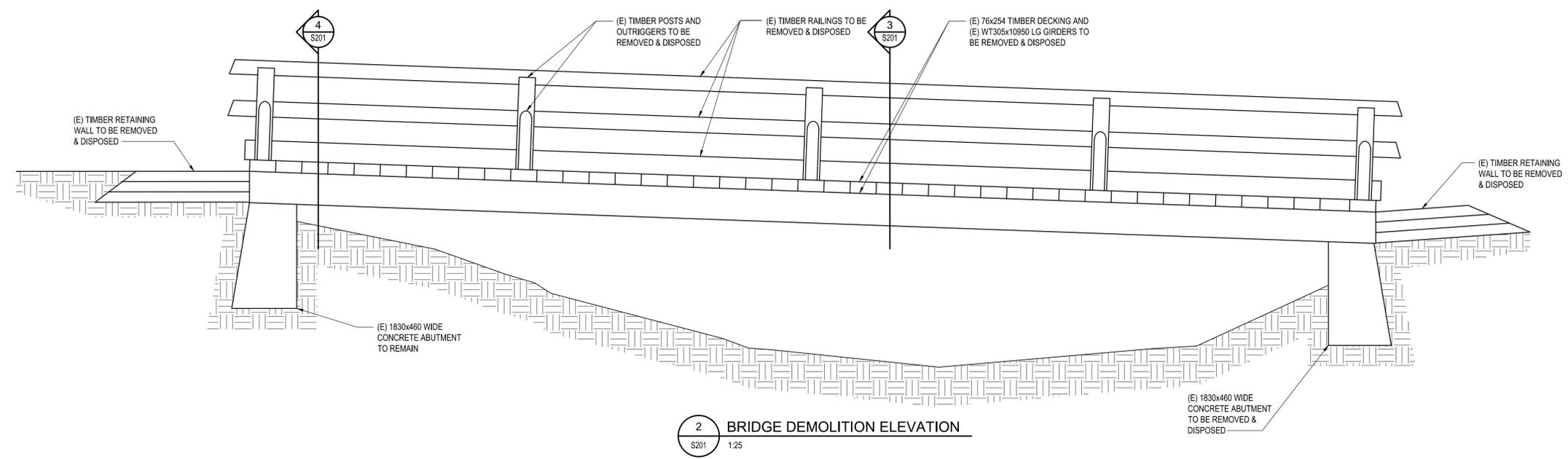
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BRIDGE AREA SITE PLAN

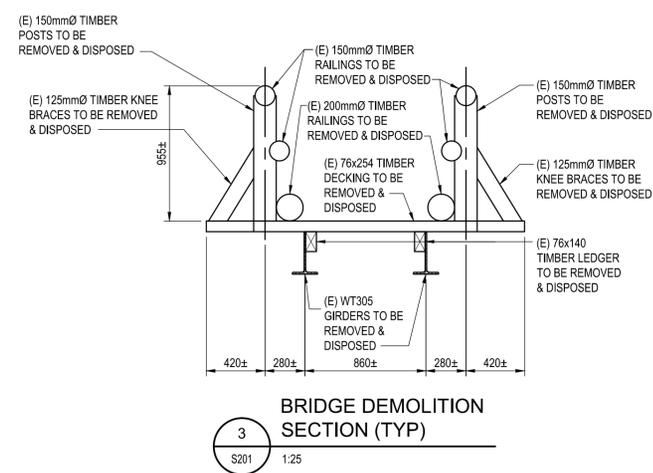
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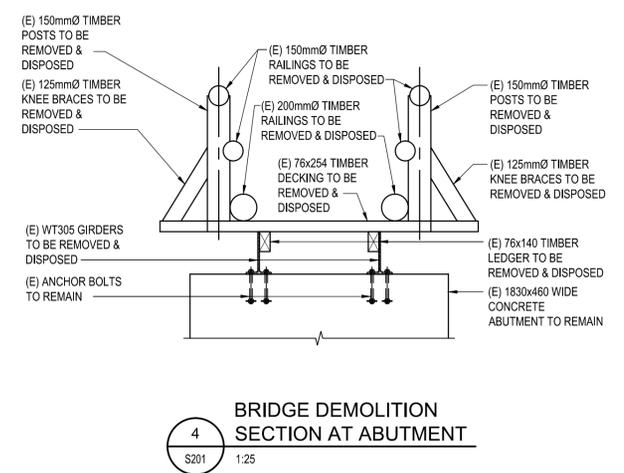
1 BRIDGE DEMOLITION PLAN
S201 1:25



2 BRIDGE DEMOLITION ELEVATION
S201 1:25



3 BRIDGE DEMOLITION SECTION (TYP)
S201 1:25



4 BRIDGE DEMOLITION SECTION AT ABUTMENT
S201 1:25



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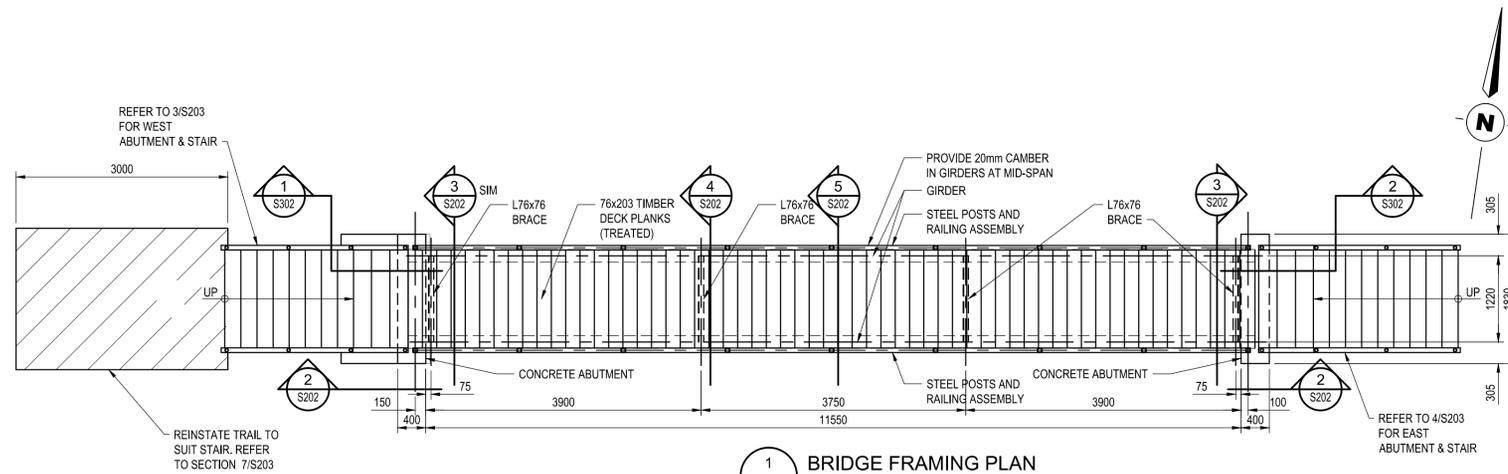
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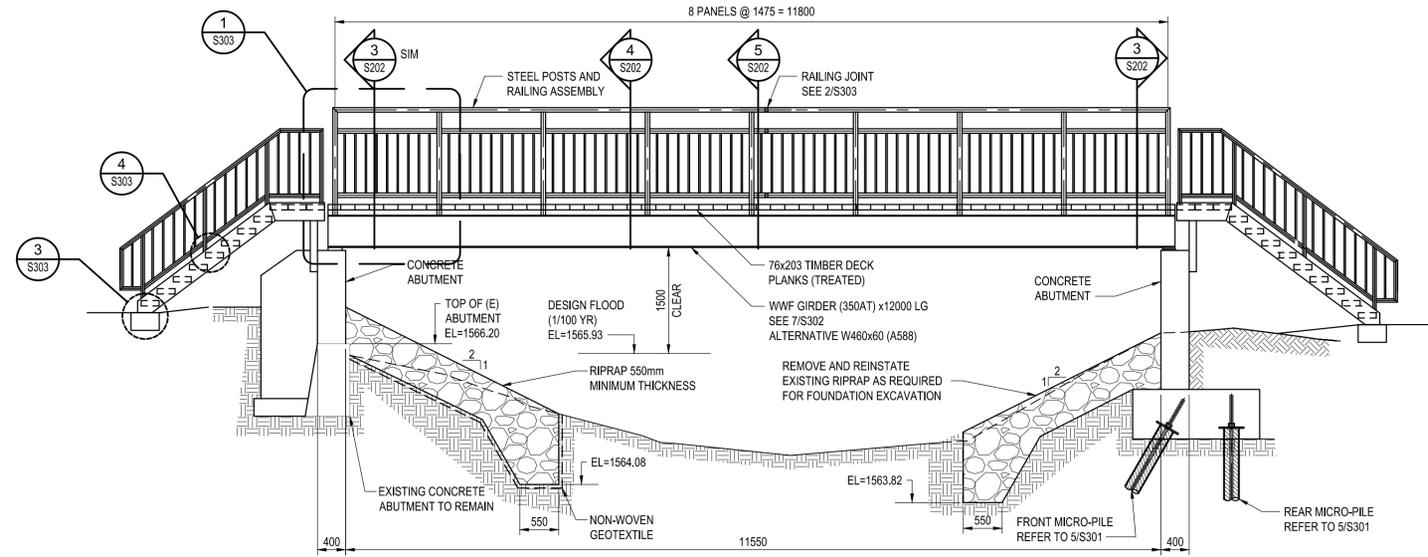
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**DEMOLITION PLAN
ELEVATION,
SECTIONS AND DETAILS**

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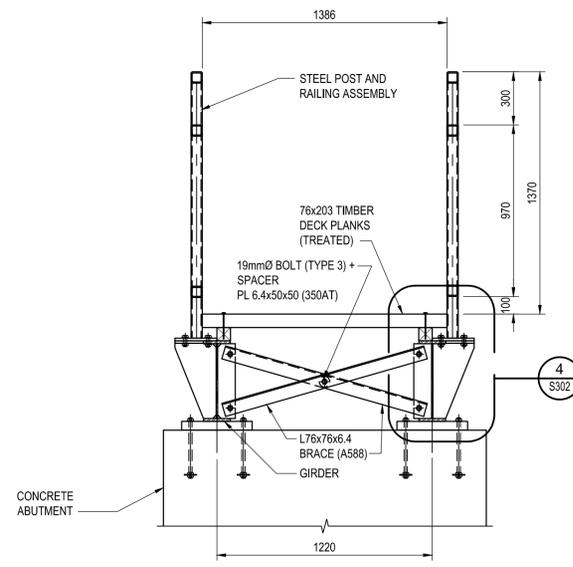




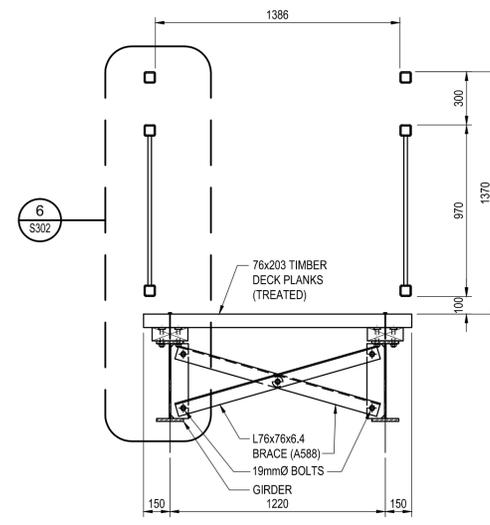
1 BRIDGE FRAMING PLAN
 S202 1:50



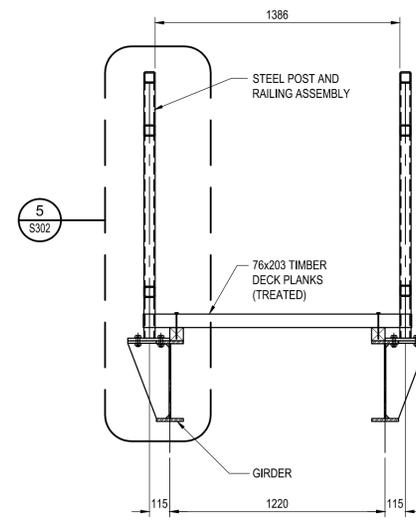
2 BRIDGE FRAMING ELEVATION
 S202 1:50



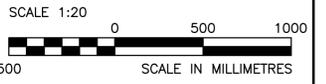
3 BRIDGE SECTION AT ABUTMENT
 S202 1:20



4 BRIDGE SECTION AT INTERMEDIATE BRACING
 S202 1:20



5 TYPICAL BRIDGE SECTION
 S202 1:20



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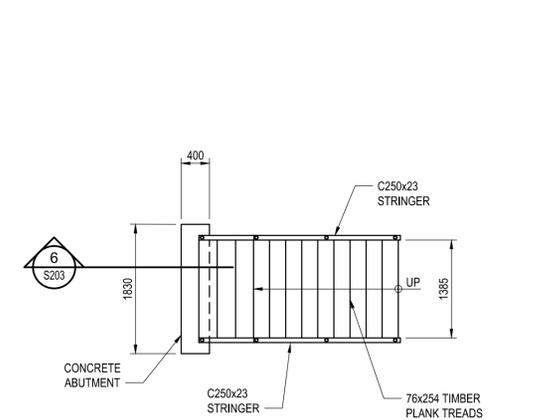
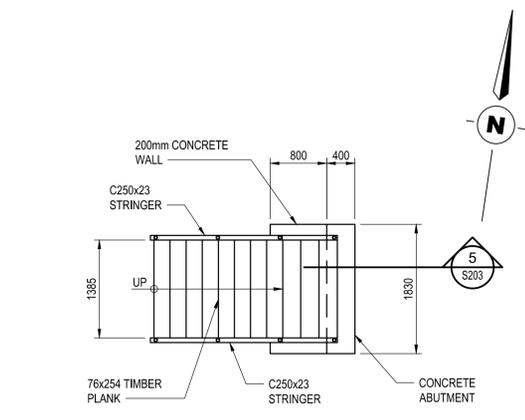
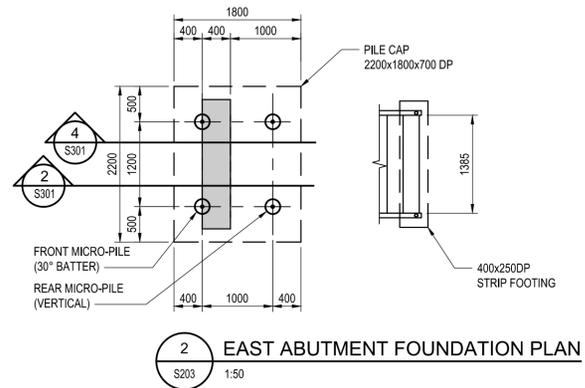
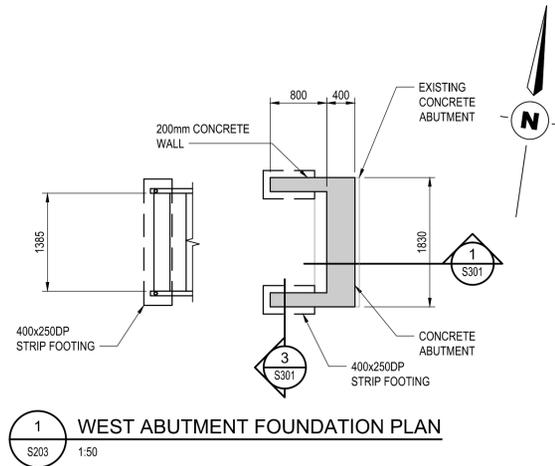
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 Gestionnaire régionale, Services d'architectural et de génie, TPSGC
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GENERAL ARRANGEMENT

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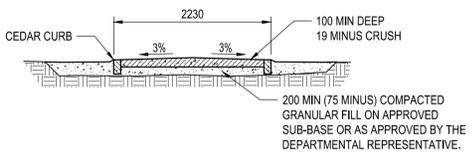
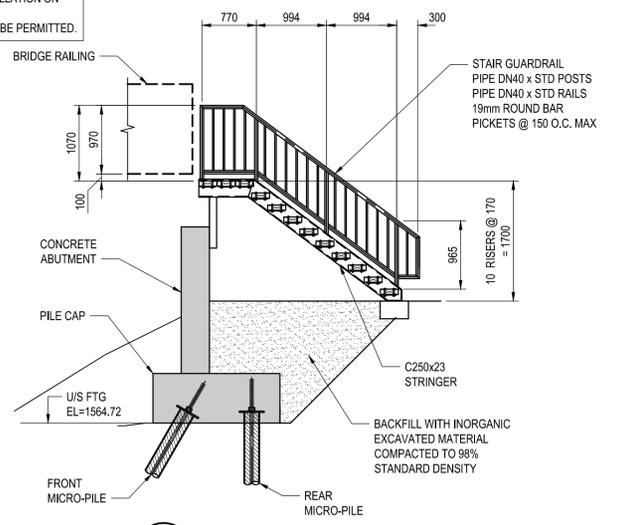
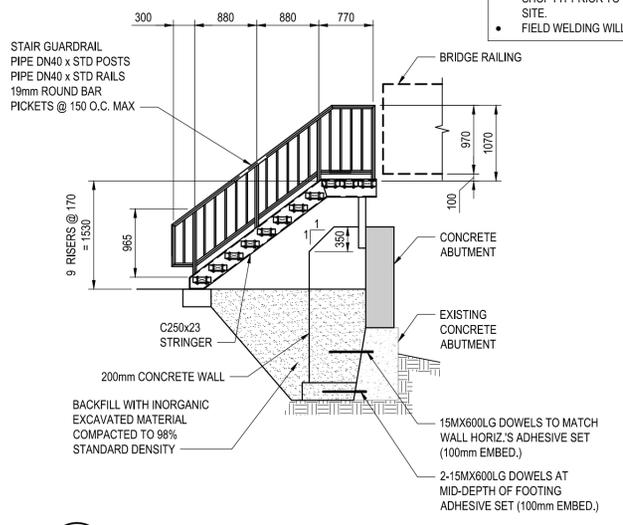
1 WEST ABUTMENT FOUNDATION PLAN
S203 1:50

2 EAST ABUTMENT FOUNDATION PLAN
S203 1:50

3 WEST ABUTMENT & STAIR PLAN
S203 1:50

4 EAST ABUTMENT & STAIR PLAN
S203 1:50

NOTE:
 • STEEL STAIR ASSEMBLIES TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION AND TOP COATED (BLACK).
 • SURFACE PREPARATION, PRIMER, AND TOP COAT TO MASTER PAINTERS INSTITUTE SYSTEM EXT 5.3C.
 • ASSEMBLIES TO BE FABRICATED IN WHOLE COMPONENTS OFF-SITE AND SHOP FIT PRIOR TO INSTALLATION ON SITE.
 • FIELD WELDING WILL NOT BE PERMITTED.



5 WEST ABUTMENT & STAIR SECTION
S203 1:50

6 EAST ABUTMENT & STAIR SECTION
S203 1:50

7 TRAIL SECTION
S203 1:50



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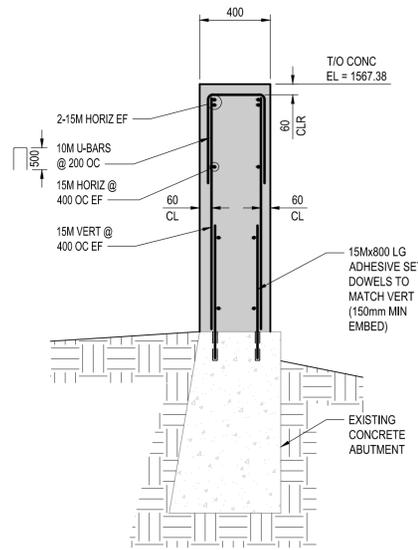
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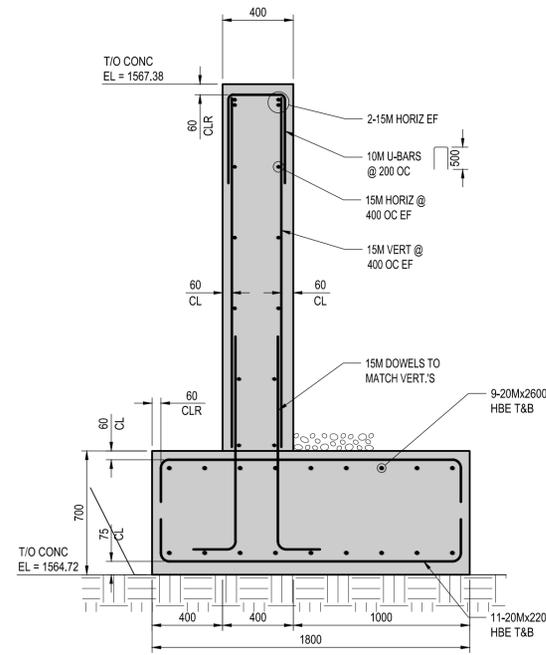
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EAST AND WEST ABUTMENT PLANS
ELEVATIONS AND SECTIONS

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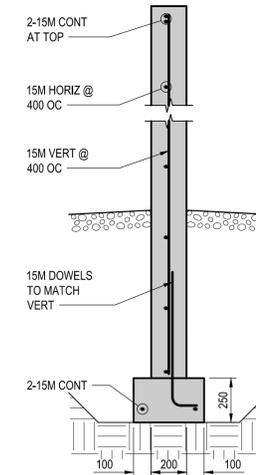




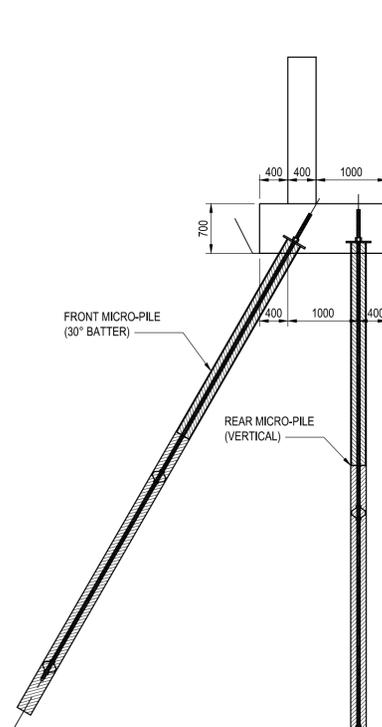
1 WEST ABUTMENT SECTION
S301 1:20



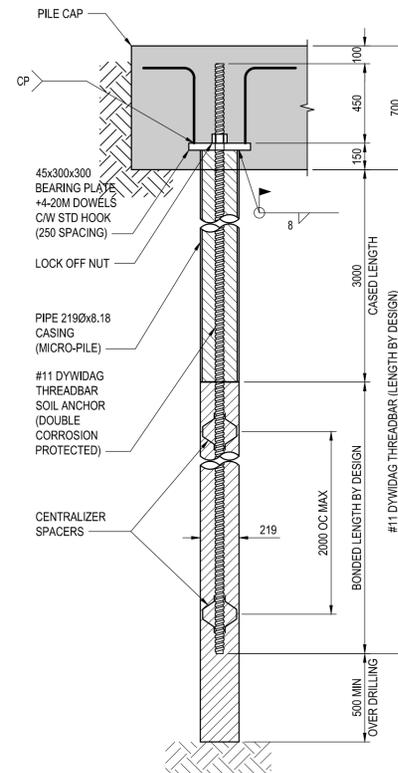
2 EAST ABUTMENT SECTION
S301 1:20



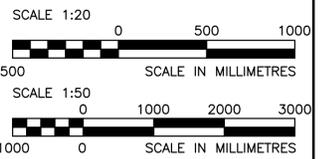
3 SECTION
S301 1:20



4 EAST ABUTMENT SECTION
S301 1:50



5 TYPICAL MICRO-PILE
S301 1:20



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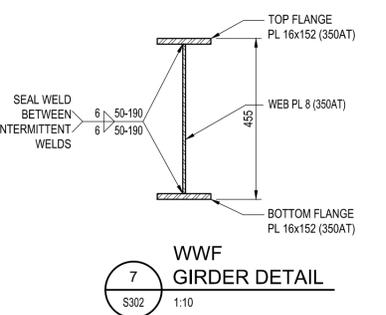
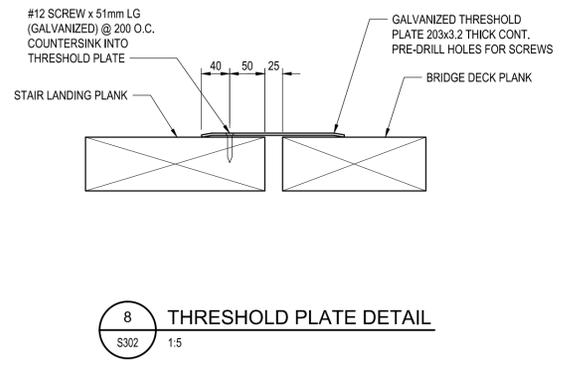
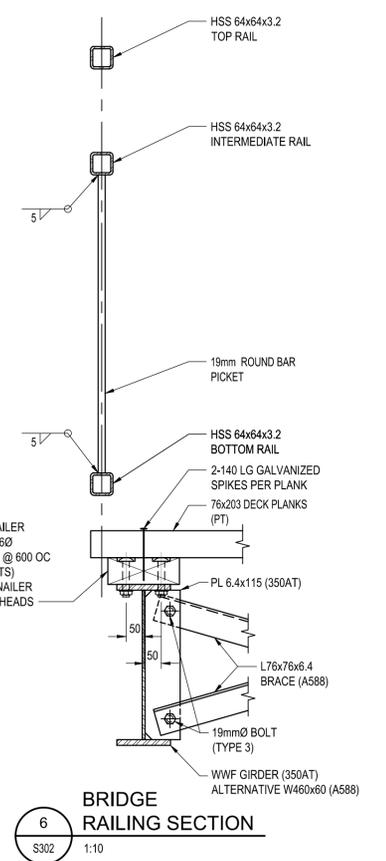
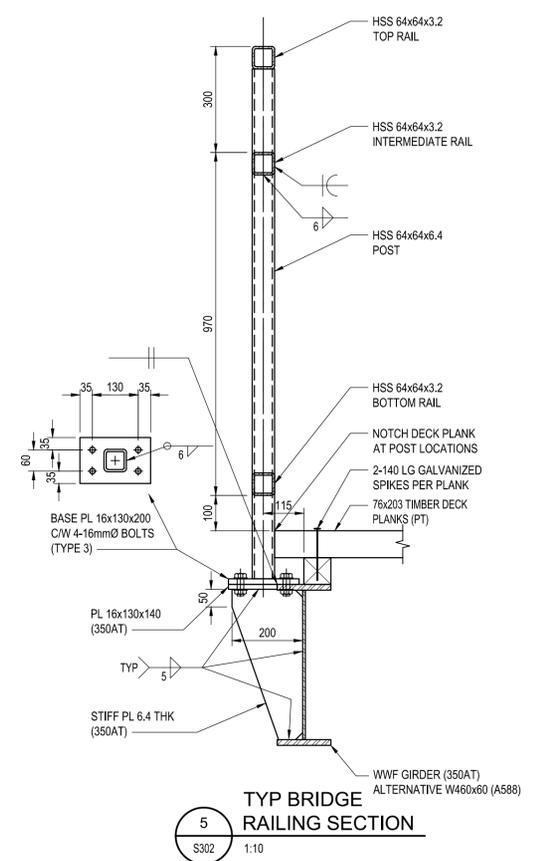
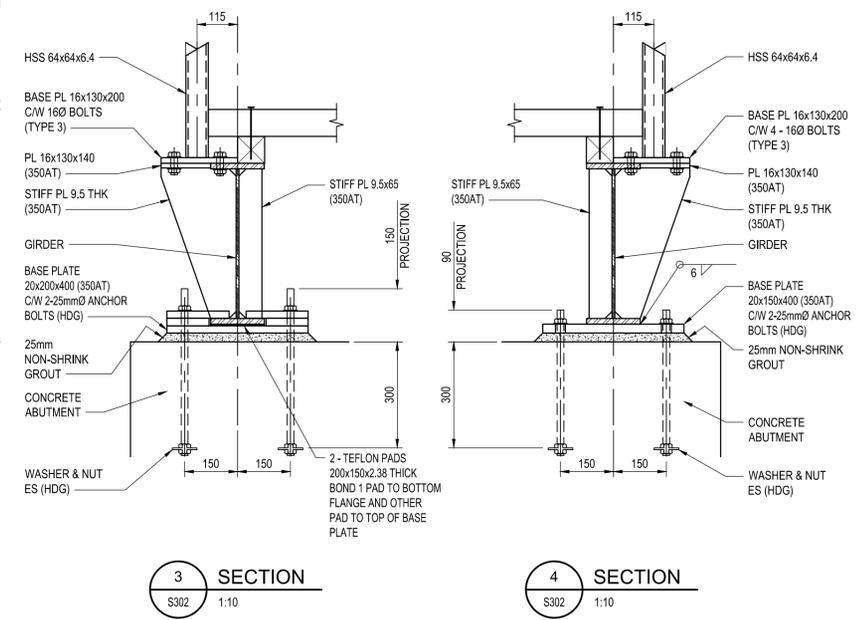
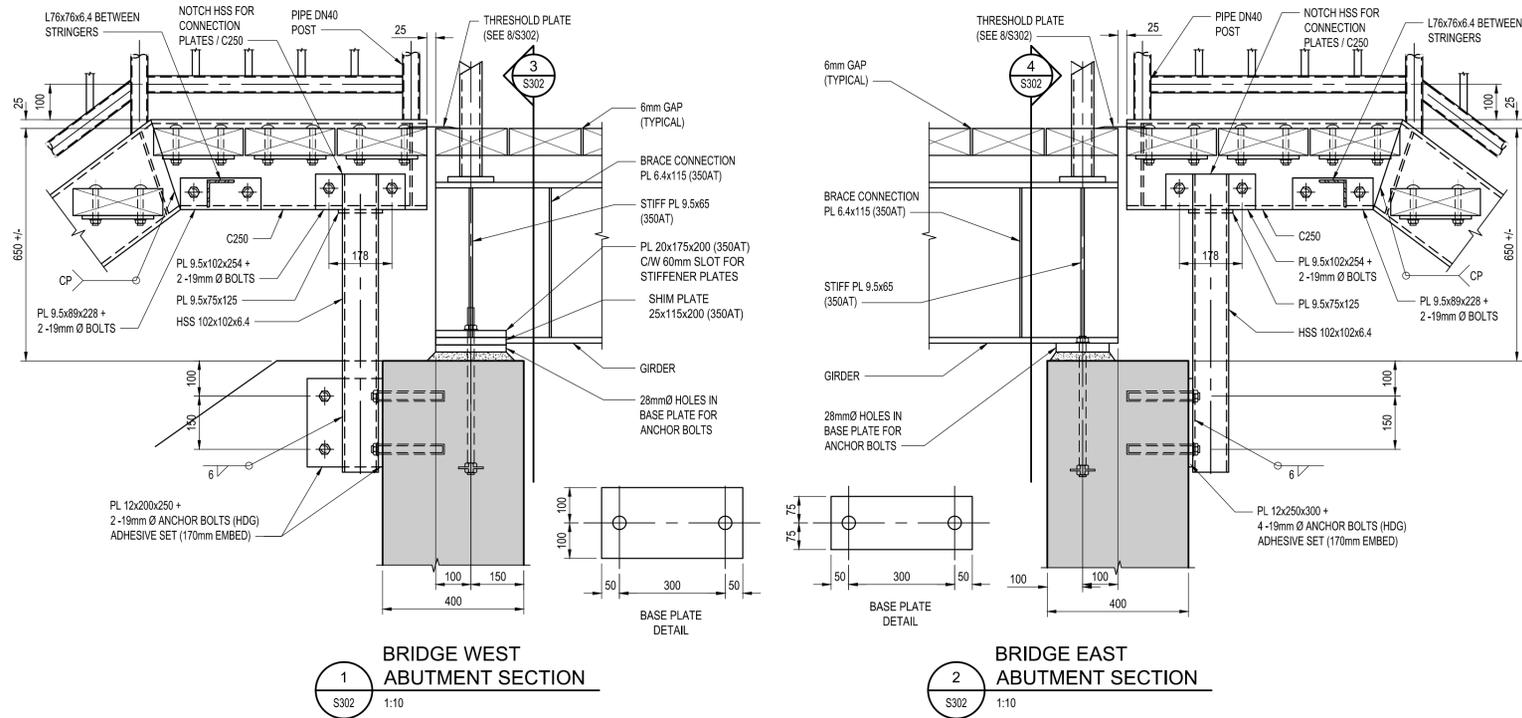
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MARC TONDER / JIMMY WONG

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OREST KLUFAS (Acting)

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EAST AND WEST ABUTMENT SECTIONS AND DETAILS

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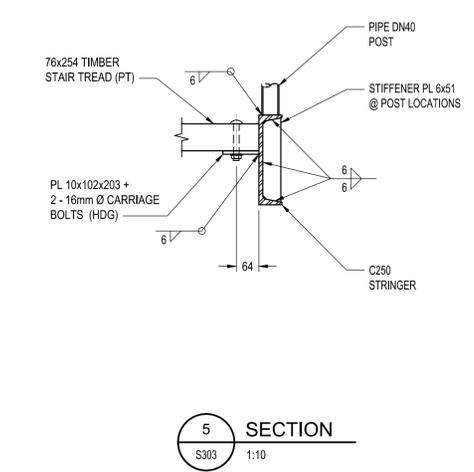
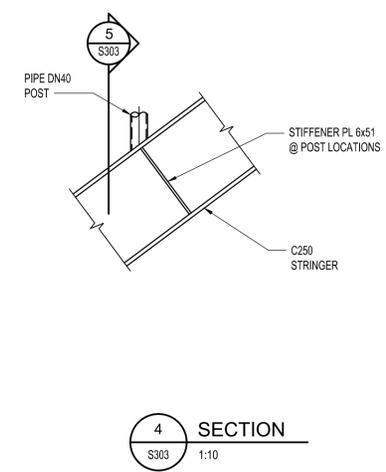
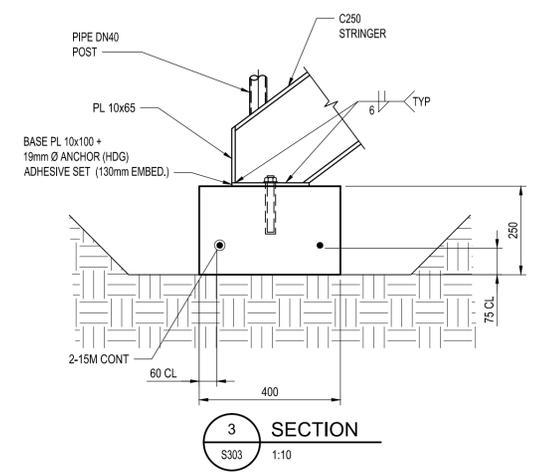
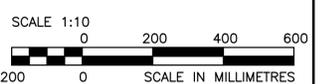
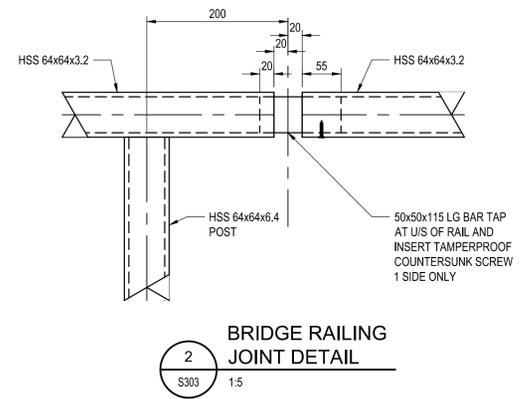
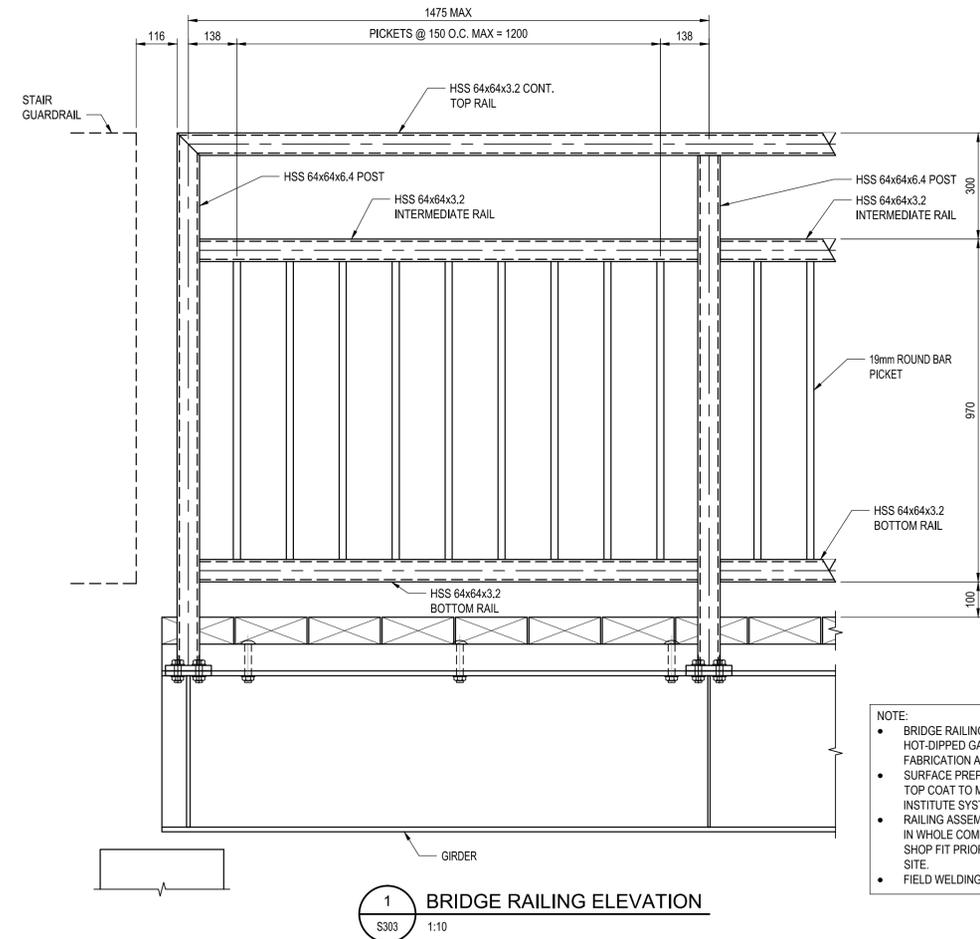
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 MARCI TONDER / JIMMY WONG

Regional Manager, Architectural and Engineering Services
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STEEL SECTIONS AND DETAILS

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 RGE
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 PWGSC Project Manager/Administrateur de Projets TPSGC
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 OREST KLUFAS (Acting)

Drawing title/Titre du dessin
RAILING ELEVATION, SECTIONS AND DETAILS
STAIR SECTIONS

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