

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 McELHANNAY 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 =	3.83 kPa
	SNOW LOAD =	6.1 kPa
ICE ACCRETION:	MODERATE (12mm ON ALL EXPOSED SURFACES)	
WIND:	q1/50 =	0.50 kPa
SEISMIC:	Zv =	1.0
	V =	0.05
	Za =	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/m² AND AN ULTIMATE LIMIT STATE BEARING PRESSURE OF 225 kN/m² 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 6/S202.
- MICRO-PILE LOADS (PER PILE):

WORKING LOAD =	180 kN
LOCK OFF LOAD =	30 kN
TEST LOAD =	180 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	CLASS
	STRENGTH	OF
	MPa	EXPOSURE
ALL LOCATIONS	30	S-3

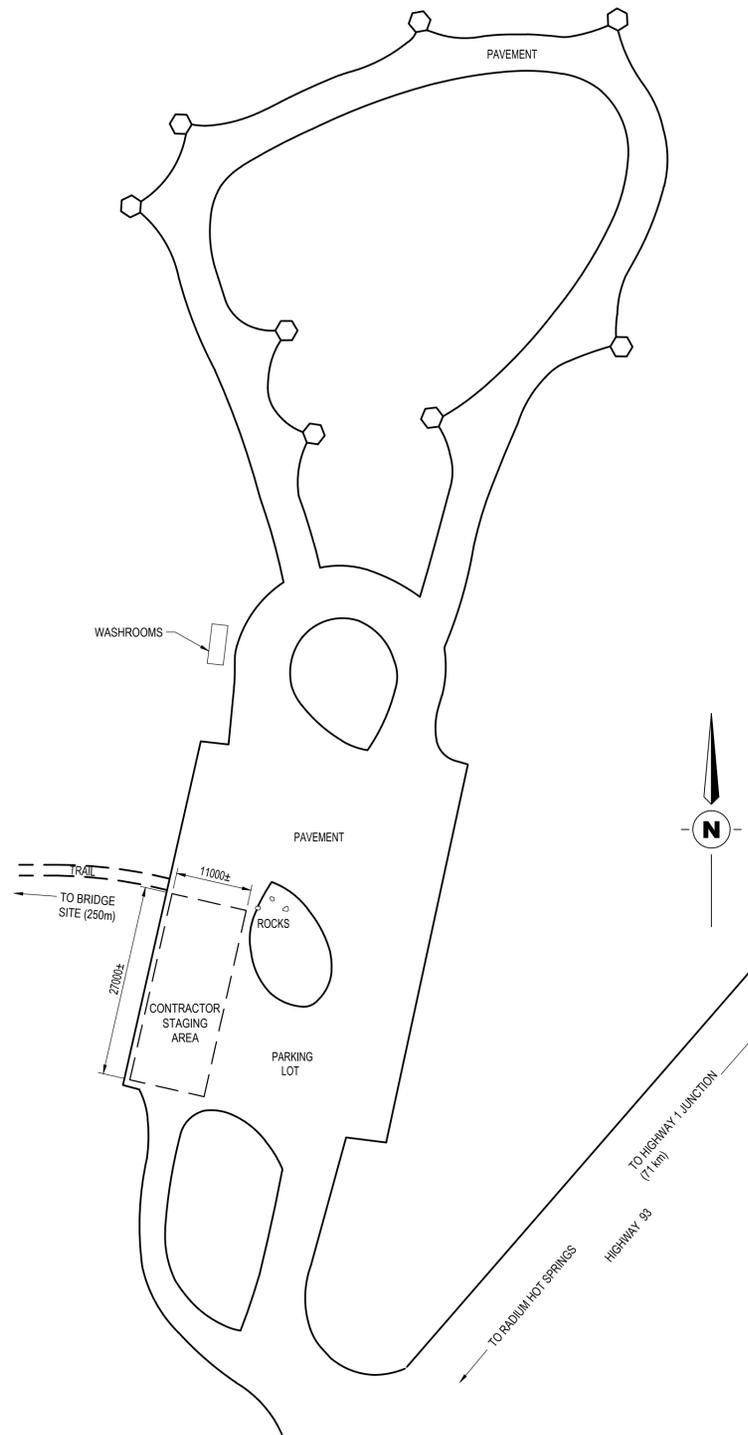
REFER TO PROJECT SPECIFICATIONS FOR OTHER REQUIREMENTS.

- 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:

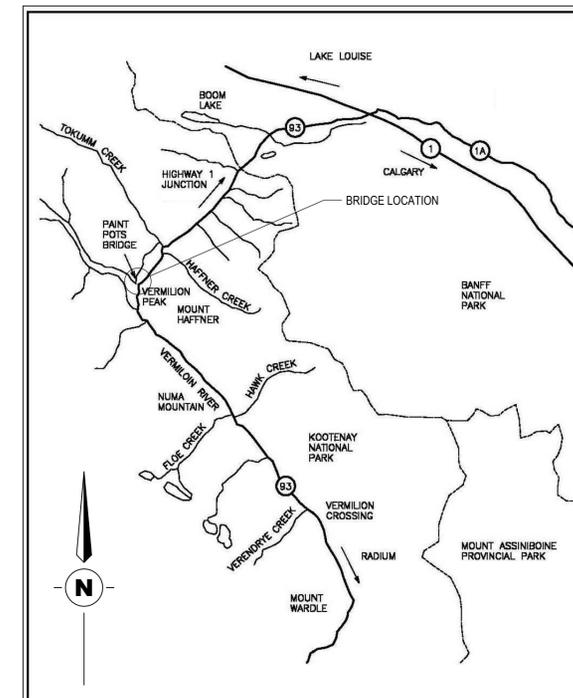
BAR SIZE	VERT LAP	HORL LAP	HOOK LENGTH
10M	430mm [17"]	500mm [20"]	180mm [7"]
15M	600mm [24"]	800mm [32"]	250mm [10"]
20M	750mm [30"]	1000mm [40"]	300mm [12"]
25M	1200mm [48"]	1550mm [60"]	400mm [16"]

STRUCTURAL STEEL NOTES

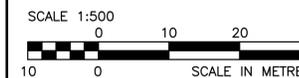
- STRUCTURAL STEEL TO CONFORM TO THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
ROLLED SECTIONS: ASTM A572
PLATE: G40.21 350AT
CHANNELS & ANGLES: G40.21 300W
PIPE: A53 Fy=240 MPa
HSS SECTIONS: ASTM A847
BOLTS: ASTM A325 TYPE 3, SELF-WEATHERING
ANCHOR BOLTS: G40.21 300W (HDG)



1 PARKING AREA SITE PLAN
S101 1:500



LOCATION PLAN
SCALE: N.T.S.



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Client/client

PARKS CANADA AGENCY

Project title/Titre du projet
KOOTENAY NATIONAL PARK

PAINT POTS TRAIL BRIDGE VERMILION RIVER

Consultant Signature Only

Designed by/Concept par
RGE

Drawn by/Dessiné par
RCM

PWGC Project Manager/Administrateur de Projets TPSGC
MARC TONDER / JIMMY WONG

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

Drawing title/Titre du dessin

PARKING AREA SITE PLAN LOCATION PLAN GENERAL NOTES

Project No./No. du projet
R.061077.001

Sheet/Feuille
S101

1 OF 6

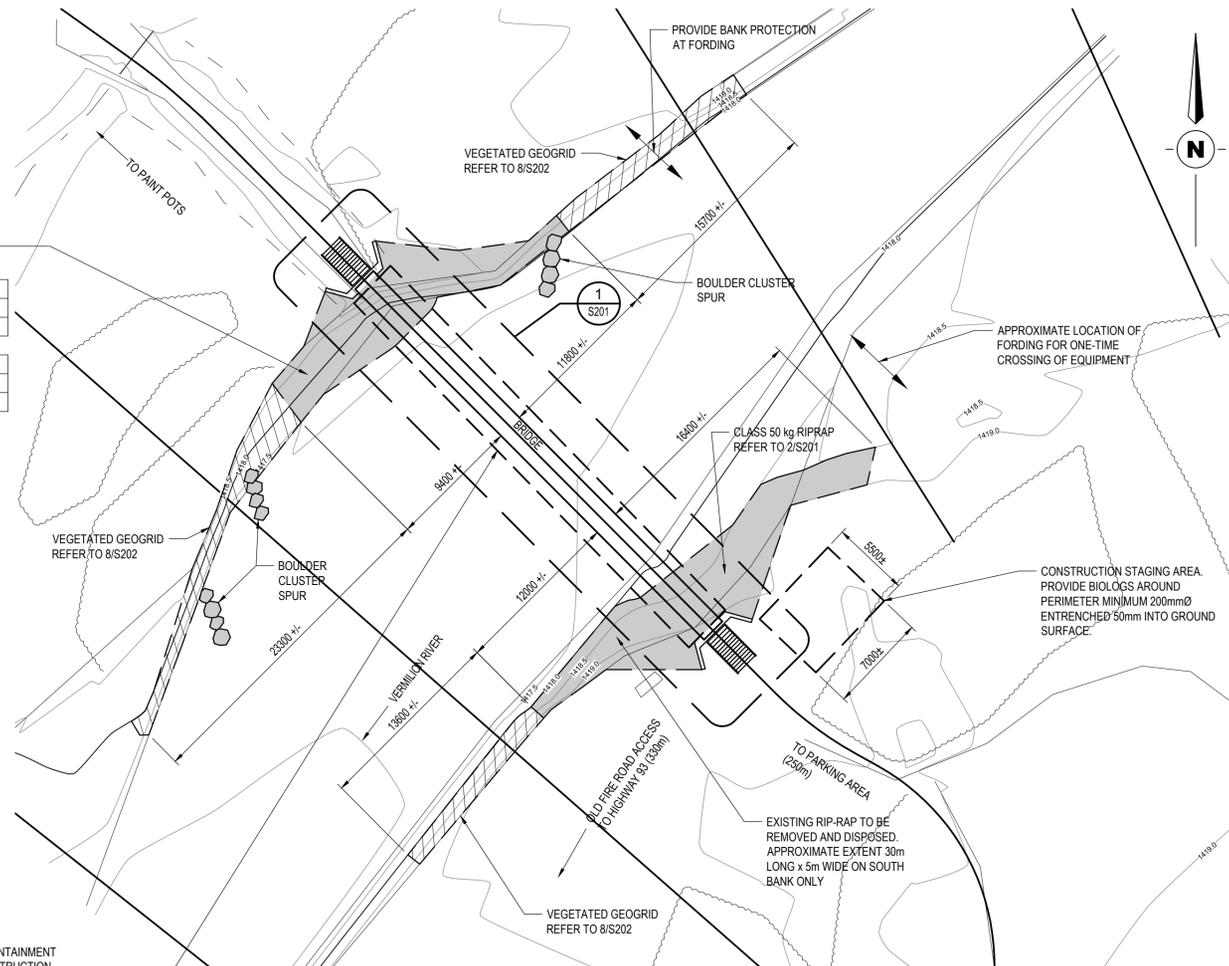
Revision no./La Révision no.
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CLASS 50 kg RIPRAP REFER TO 2/S201
RECOMMENDED GRADATION AND AVERAGE DIMENSIONS ARE:

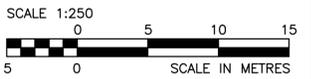
Class 50kg Rock Gradation - Percentage Smaller than Given Rock Mass (kg)		
15%	50%	85%
5	50	150

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

PROVIDE NETTING OR OTHER APPROPRIATE CONTAINMENT SYSTEM BELOW BRIDGE TO CAPTURE ALL CONSTRUCTION DEBRIS. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, EXTENT, AND DETAILS OF THE CONTAINMENT SYSTEM. NETTING CONTAINMENT SYSTEM TO MEET DEPARTMENT OF FISHERIES AND OCEANS OPERATIONAL STATEMENT FOR BRIDGE MAINTENANCE TO PREVENT DELETERIOUS MATERIAL FROM ENTERING RIVER. SYSTEM TO BE INSPECTED AND APPROVED BY THE DEPARTMENTAL REPRESENTATIVE. SYSTEM SHOULD BE PERMEABLE TO ALLOW RAIN TO PASS BUT BE CAPABLE OF TRAPPING HOT WELDING SOLDER.



1 BRIDGE AREA SITE PLAN
S102 1:250



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KOOTENAY NATIONAL PARK

**PAINT POTS TRAIL BRIDGE
VERMILION RIVER**

Consultant Signature Only

Designed by/Concept par
RGE

Drawn by/Dessiné par
RCM

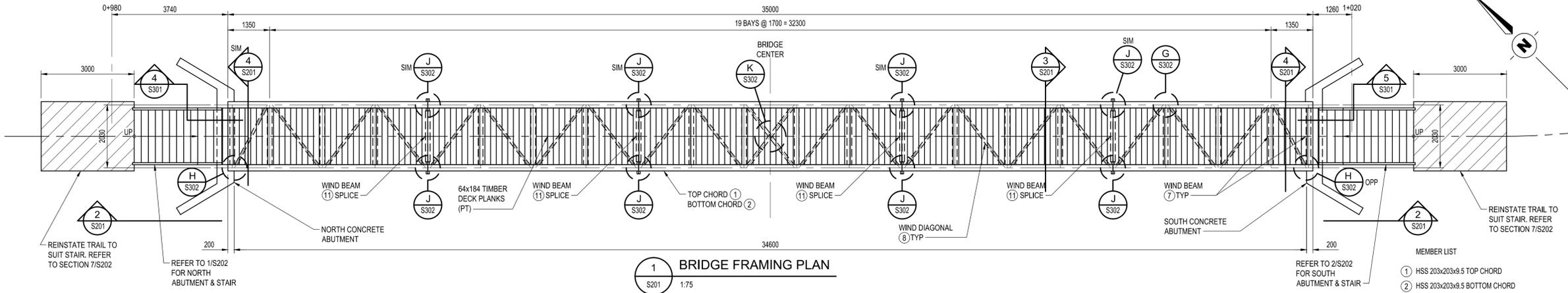
PWGSC Project Manager/Administrateur de Projets TPSGC
MARC TONDER / JIMMY WONG

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

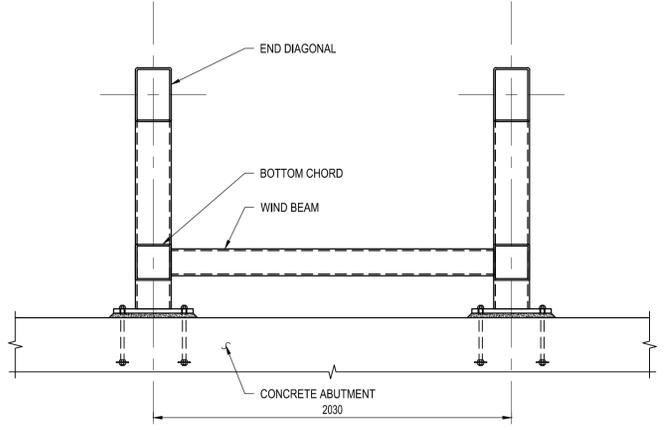
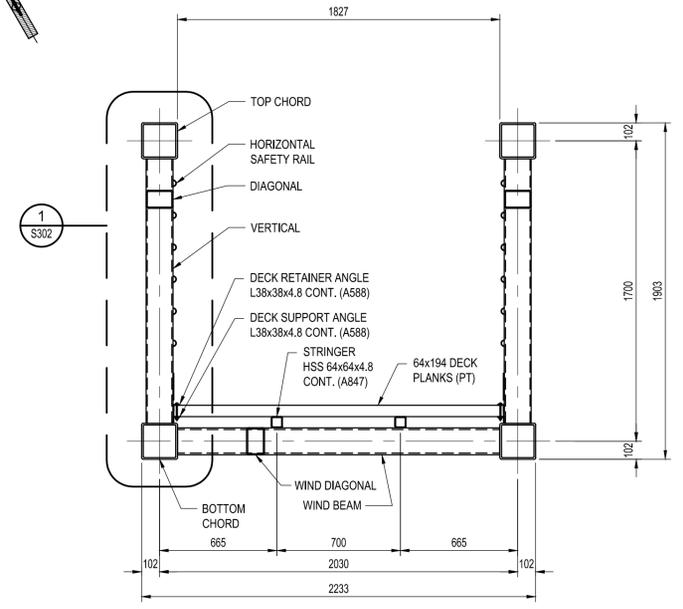
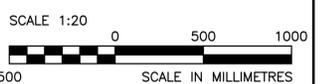
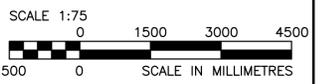
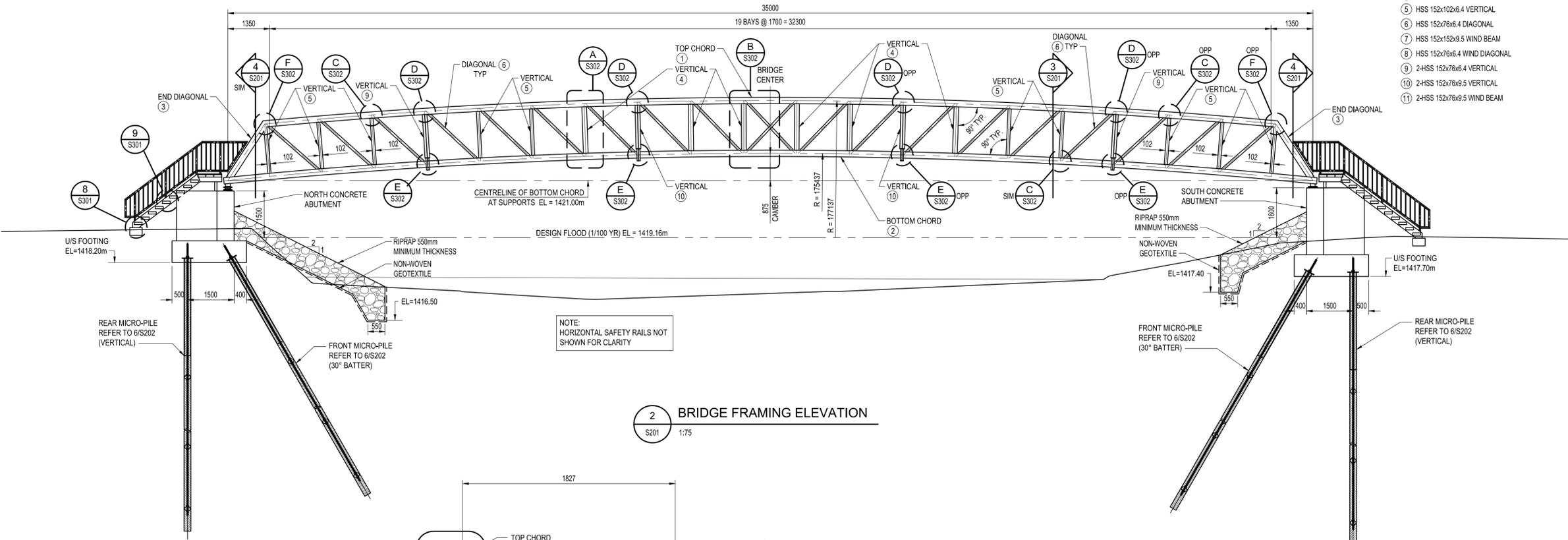
Drawing title/Titre du dessin
BRIDGE AREA SITE PLAN

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- MEMBER LIST**
- ① HSS 203x203x9.5 TOP CHORD
 - ② HSS 203x203x9.5 BOTTOM CHORD
 - ③ HSS203x203x9.5 END DIAGONAL
 - ④ HSS 152x152x9.5 VERTICAL
 - ⑤ HSS 152x102x6.4 VERTICAL
 - ⑥ HSS 152x76x6.4 DIAGONAL
 - ⑦ HSS 152x152x9.5 WIND BEAM
 - ⑧ HSS 152x76x6.4 WIND DIAGONAL
 - ⑨ 2-HSS 152x76x6.4 VERTICAL
 - ⑩ 2-HSS 152x76x9.5 VERTICAL
 - ⑪ 2-HSS 152x76x9.5 WIND BEAM



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PARKS CANADA AGENCY

Project title/Titre du projet
KOOTENAY NATIONAL PARK
PAINT POTS TRAIL BRIDGE
VERMILION RIVER

Consultant Signature Only

Designed by/Conçue par
 RGE

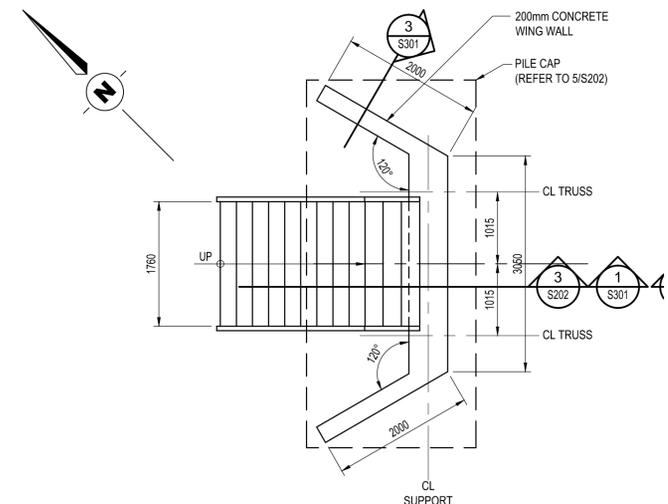
Drawn by/Dessiné par
 RCM

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

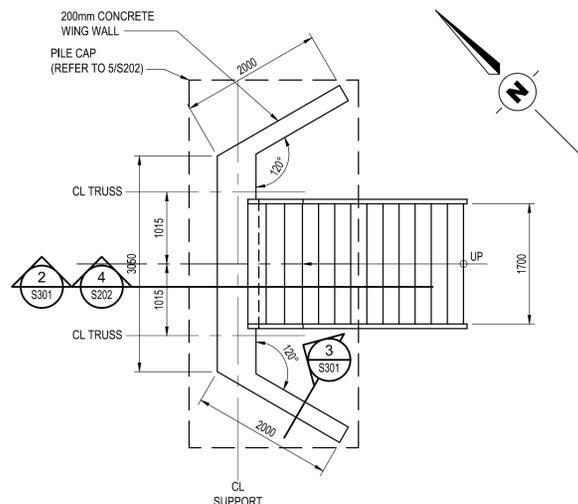
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 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 OREST KLUFAS (Acting)

Drawing title/Titre du dessin
GENERAL ARRANGEMENT

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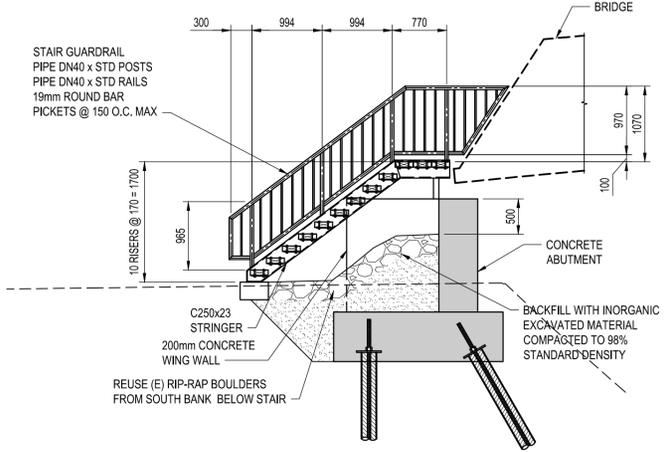


1 NORTH ABUTMENT AND STAIR PLAN
 S202 1:50

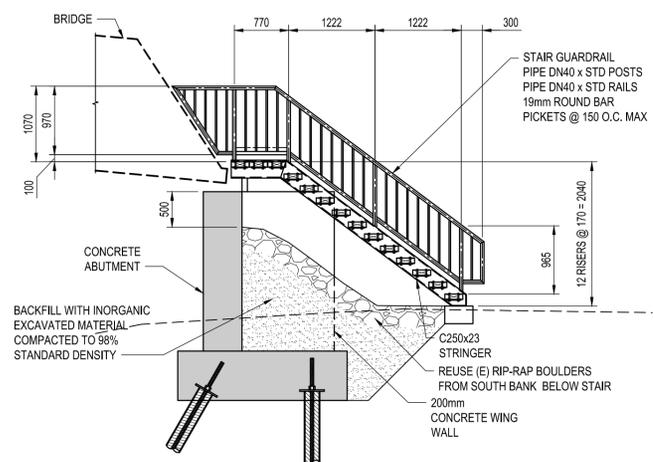


2 SOUTH ABUTMENT AND STAIR PLAN
 S202 1:50

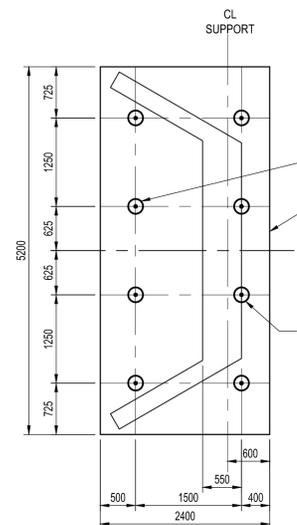
NOTE:
 • STEEL STAIR ASSEMBLIES TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION AND TOP COATED (BLACK).
 • SURFACE PREPARATION, PRIMER, AND TOP COAT TO MASTER PAINTERS INSTITUTE SYSTEM EXT 5.3C.
 • ASSEMBLIES TO BE FABRICATED IN WHOLE COMPONENTS OFF-SITE AND SHOP FIT PRIOR TO INSTALLATION ON SITE.
 • FIELD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



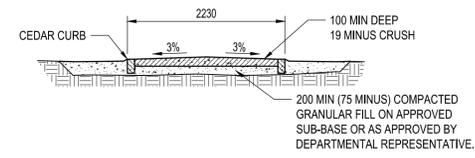
3 NORTH ABUTMENT AND STAIR ELEVATION
 S202 1:50



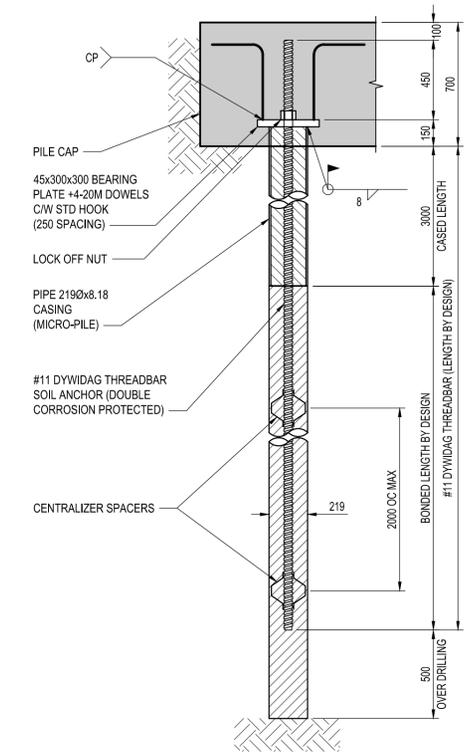
4 SOUTH ABUTMENT AND STAIR ELEVATION
 S202 1:50



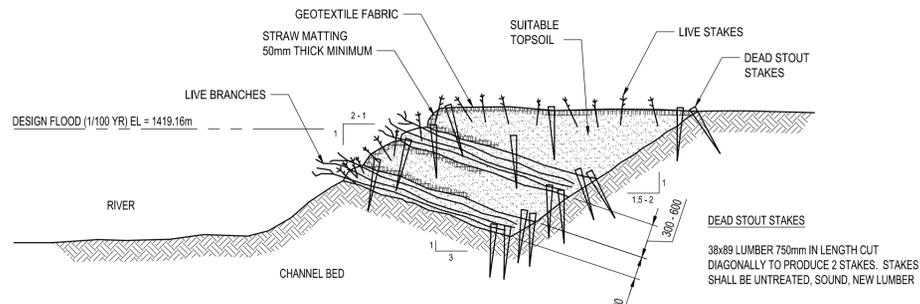
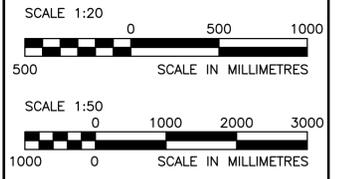
5 PILE CAP PLAN
 S202 1:50



7 TRAIL SECTION
 S202 1:50



6 TYPICAL MICRO-PILE
 S202 1:20



8 TYPICAL VEGETATED GEOGRID SECTION
 S202 1:50

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Client/client: **PARKS CANADA AGENCY**

Project title/Titre du projet: **KOOTENAY NATIONAL PARK**

PAINT POTS TRAIL BRIDGE VERMILION RIVER

Consultant Signature Only

Designed by/Concept par: **RGE**

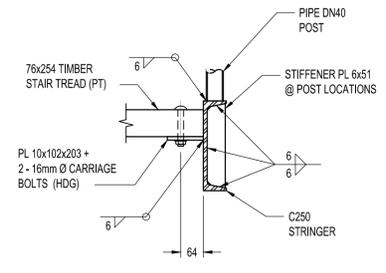
Drawn by/Dessiné par: **RCM**

PWGS Project Manager/Administrateur de Projets TPSGC: **MARCI TONDER / JIMMY WONG**

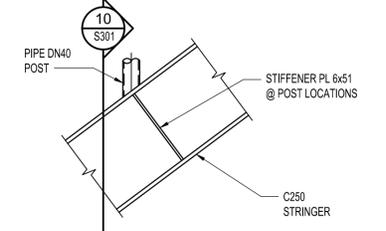
Regional Manager, Architectural and Engineering Services: **OREST KLIFAS (Acting)**

Drawing title/Titre du dessin: **NORTH AND SOUTH ABUTMENT PLANS ELEVATIONS AND SECTIONS**

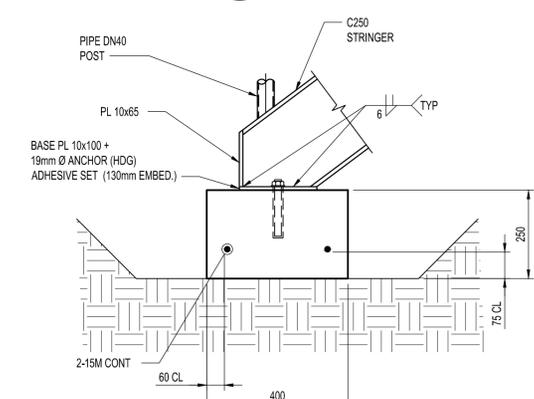
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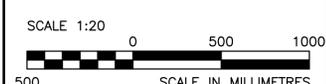
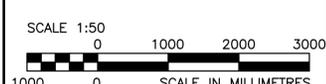
10 SECTION
S301 1:10



9 SECTION
S301 1:10



8 SECTION
S301 1:10



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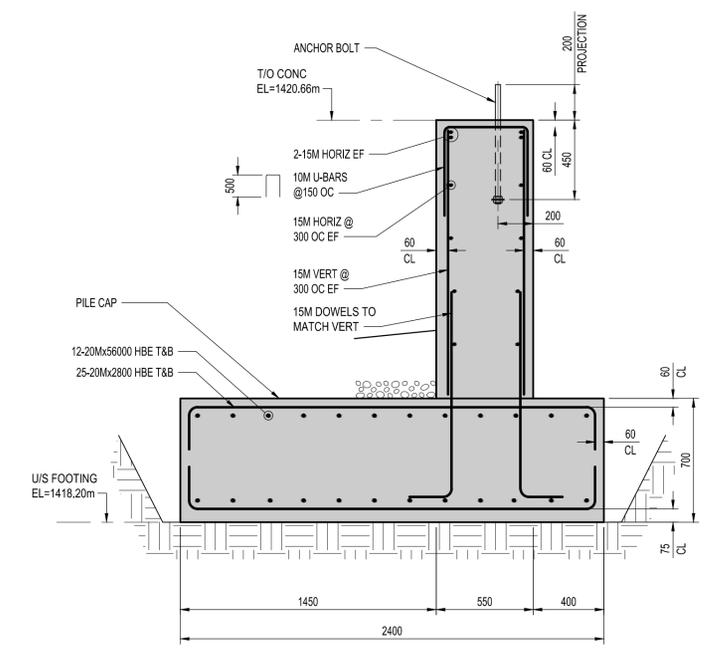
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KOOTENAY NATIONAL PARK

PAINT POTS TRAIL BRIDGE VERMILION RIVER

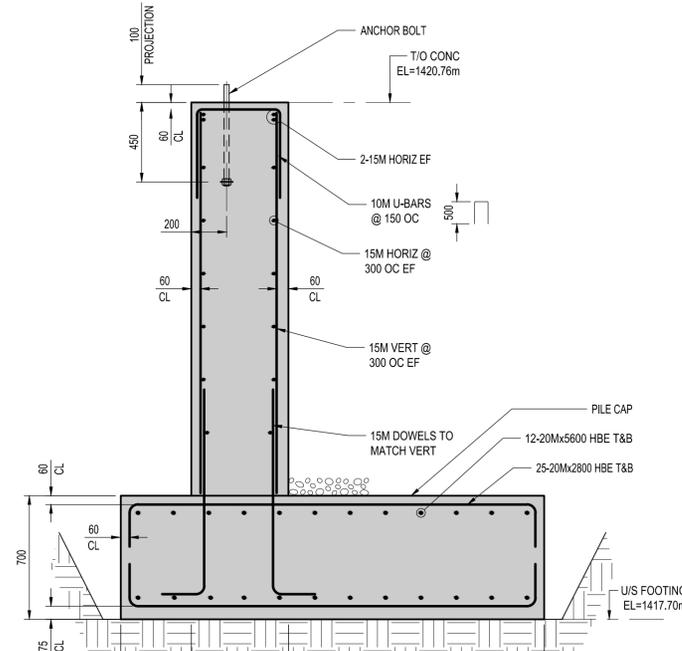
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 Drawn by/Dessiné par RCM
 PWGSC Project Manager/Administrateur de Projets TPSGC MARCI TONDER / JIMMY WONG
 Regional Manager, Architectural and Engineering Services Gestionnaire régionale, Services d'architectural et de génie, TPSGC OREST KLIFAS (Acting)

Drawing title/Titre du dessin
NORTH AND SOUTH ABUTMENT SECTIONS AND DETAILS

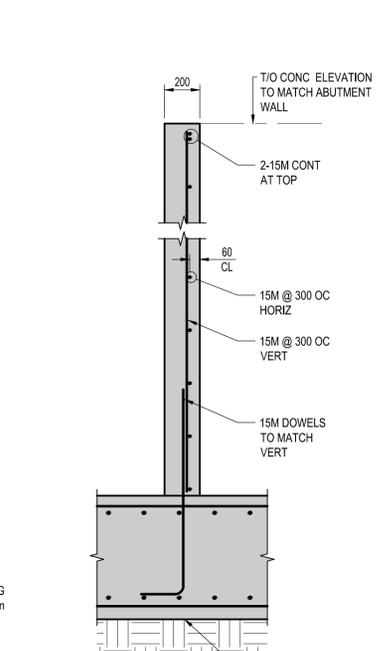
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 Sheet/Feuille: **S301**
 Revision no./La Révision no.: **0**
 5 OF 6



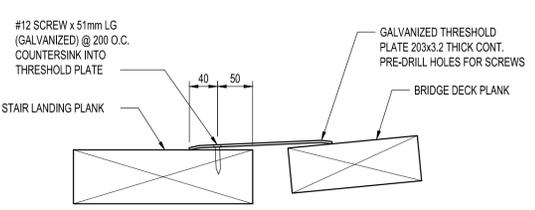
1 NORTH ABUTMENT SECTION
S301 1:20



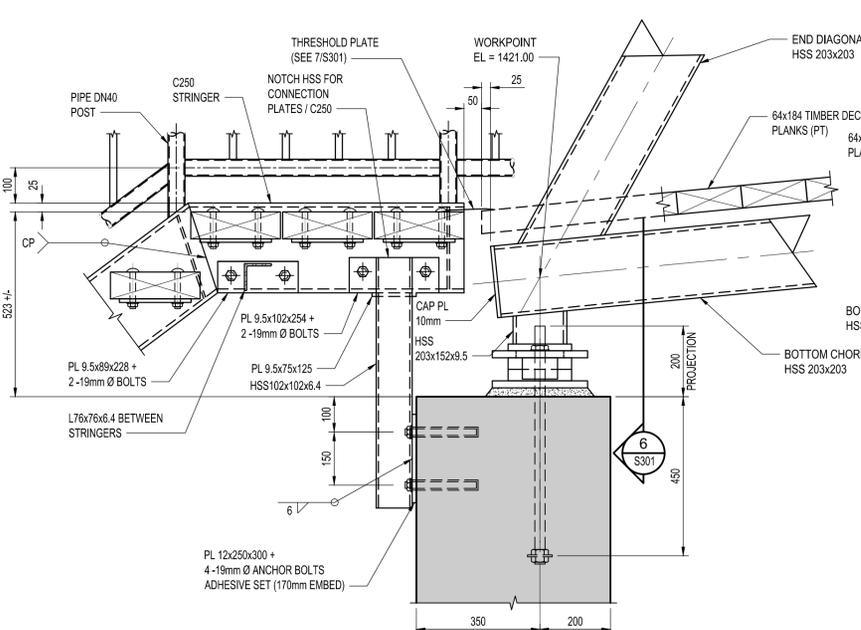
2 SOUTH ABUTMENT SECTION
S301 1:20



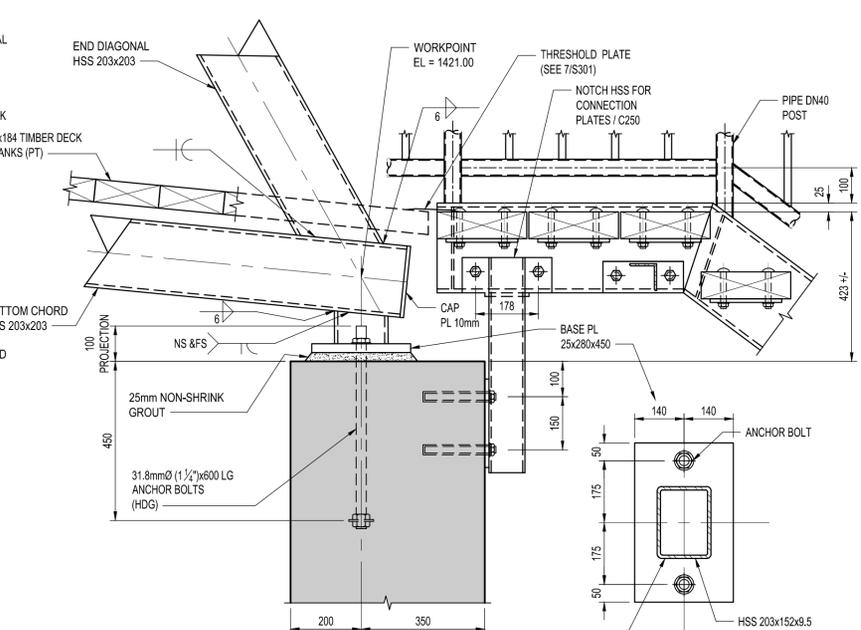
3 WING WALL SECTION
S301 1:20



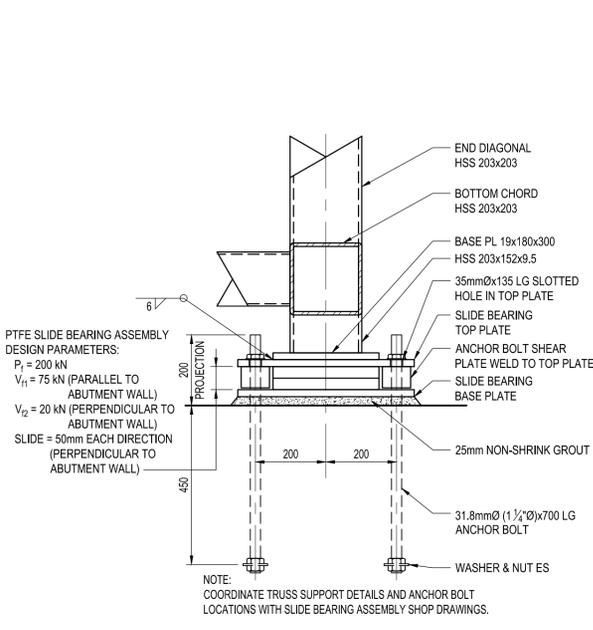
7 THRESHOLD PLATE DETAIL
S301 1:5



4 NORTH ABUTMENT SUPPORT DETAIL
S301 1:10



5 SOUTH ABUTMENT SUPPORT DETAIL
S301 1:10



6 SLIDE BEARING DETAIL
S301 1:10





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PARKS CANADA AGENCY

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KOOTENAY NATIONAL PARK
PAINT POTS TRAIL BRIDGE
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 RGE
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 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)

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STEEL CONNECTION SECTIONS AND DETAILS

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