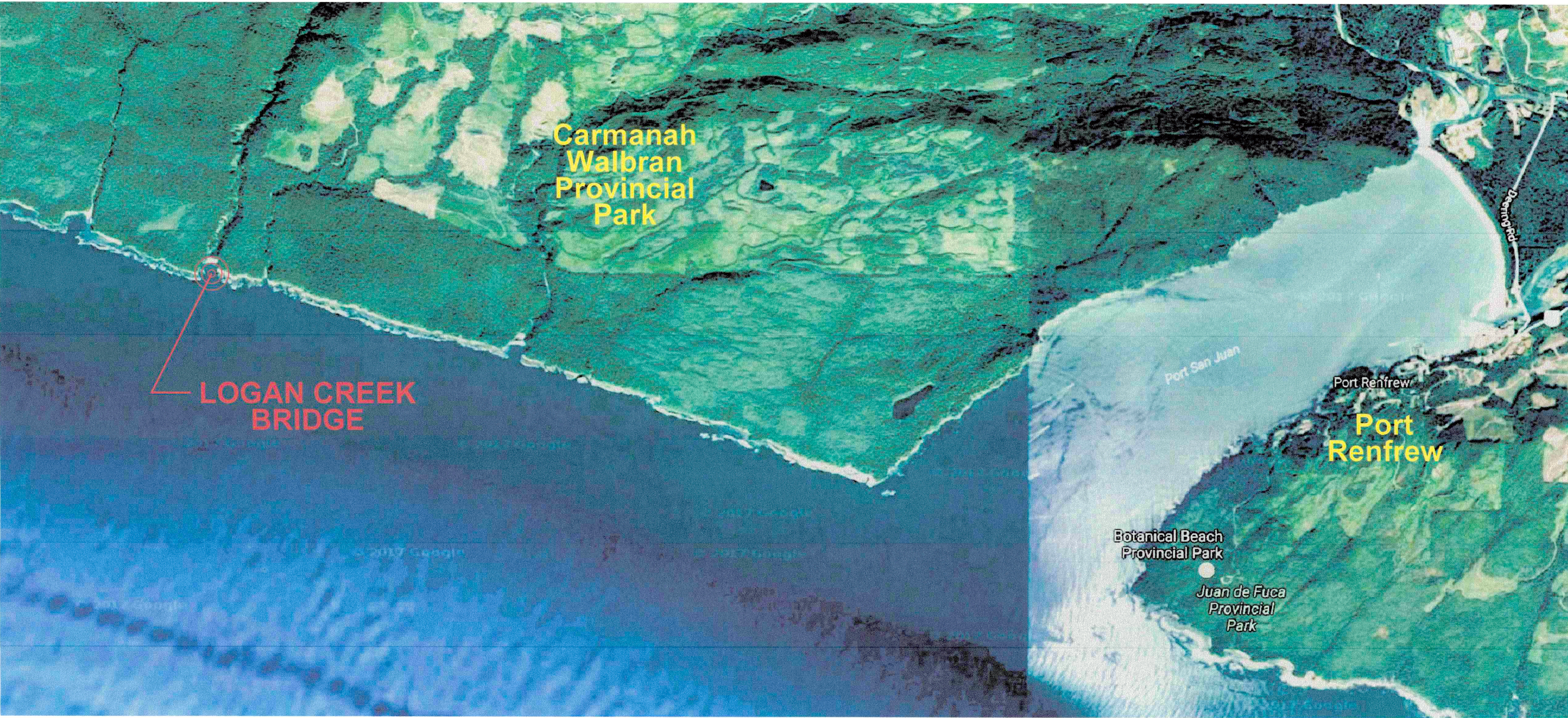


WEST COAST TRAIL LOGAN CREEK BRIDGE

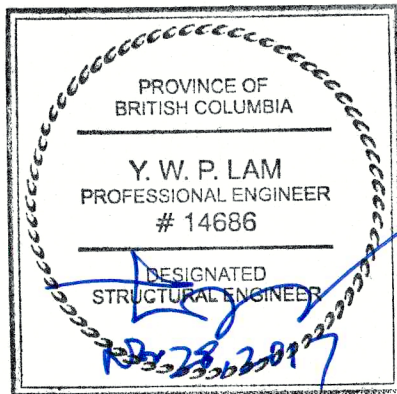
PACIFIC RIM NATIONAL PARK RESERVE, VANCOUVER ISLAND, B.C.



LOCATION PLAN extracted from Google Map

DRAWING LIST (STRUCTURAL)

S300	COVER SHEET - LOCATION PLAN & SITE MAP
S301	GENERAL NOTES
S302	SITE PLAN
S303	NEW BRIDGE PLAN VIEW & ELEVATION VIEW
S304	ABUTMENT LOCATION PLANS & SITE PHOTOS
S305	SECTIONS & DETAILS SHEET-1
S306	SECTIONS & DETAILS SHEET-2
S307	SECTIONS & DETAILS SHEET-3
S308	SECTIONS & DETAILS SHEET-4



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Project title/Titre du projet
**PACIFIC RIM NATIONAL PARK RESERVE
VANCOUVER ISLAND, B.C.**
**WEST COAST TRAIL
LOGAN CREEK BRIDGE**

Consultant Signature Only
Designed by/Concept par
PL / SZ
Drawn by/Dessiné par
CAD

Drawing title/Titre du dessin
**COVER SHEET
LOCATION PLAN & SITE MAP**

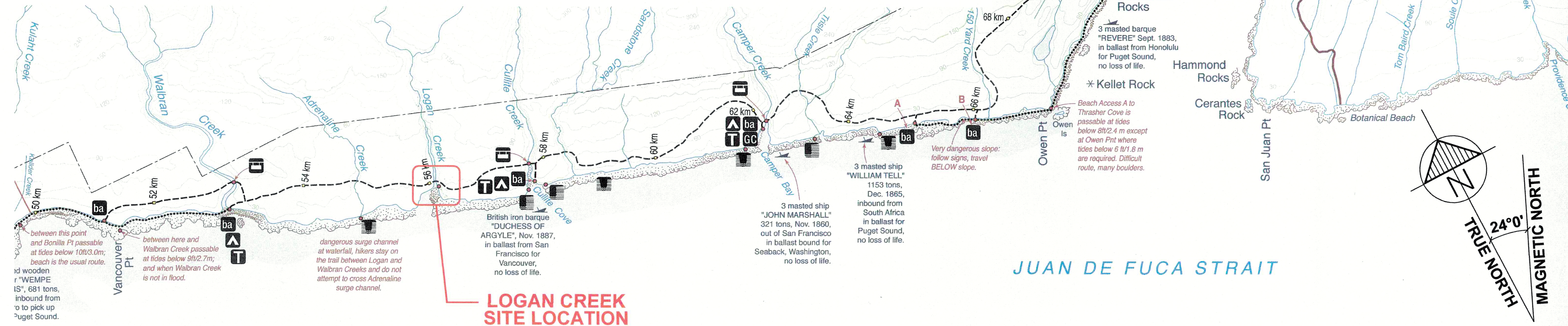
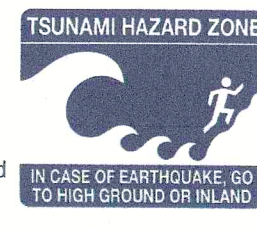
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LEGEND

- highway
- all-weather road
- West Coast Trail forest route
- distance in km from Pachena Trailhead
- West Coast Trail - beach route

- IR 12 Indian Reserve
- swampy area
- buildings
- sand, foreshore flits
- rocky ledge, rocky reef
- shipwreck, general location only
- campsite - all campsites are located on the beaches
- West Coast Trail Information Centre - register on and off
- Pacific Rim National Park Reserve
- Pacific Rim National Park Reserve Marine Zone
- outhouse
- trailhead
- beach access
- parking
- cable car
- impassable headland
- difficult surge channel
- viewpoint, point of interest
- Guardian cabin
- Didakt luxury tent

contour interval - 30m
Tide heights quoted on the face of the map are approximate and assume calm seas; use tide tables for Tofino, B.C.
Add one hour during summer months for Pacific Daylight Saving Time.
photographs courtesy Parks Canada 2012 edition



SITE MAP extracted from West Coast Trail Map

GENERAL NOTES

GENERAL

1. THE SCOPE OF THIS CONSTRUCTION IS TO CONSTRUCT NEW BRIDGE AS SHOWN ON THE DRAWINGS AND REMOVE OFF SITE THE EXISTING BRIDGE STRUCTURE, INCLUDING ITS ANCHORS, CABLE, AS WELL AS TO PROVIDE SUBSEQUENT SITE REHABILITATION TO ITS EXISTING NATURAL CONDITION.
2. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY TO THE DEPARTMENTAL REPRESENTATIVE FOR CLARIFICATIONS.
3. THIS SET OF DRAWINGS SHOWS THE COMPLETED STRUCTURE AND DOES NOT SHOW WORK WHICH MAY BE REQUIRED FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL SAFETY ON AND ABOUT THE JOB SITE DURING THE CONSTRUCTION PERIOD AND FOR DESIGN AND ERECTION OF ALL FALSEWORK, SHORING, BRACING ETC. TO ENSURE THE SAFETY OF ALL CONSTRUCTION TEMPORARY LOADS AND TO COMPLETE THE WORK. ALL TEMPORARY WORKS AND SHORING ETC. SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA. ADHERE STRICTLY TO ALL REQUIREMENTS OF THE WORKSAFE BRITISH COLUMBIA.
4. ALL CODE REFERENCES ARE TO LATEST EDITIONS REFERENCED IN THE NATIONAL BUILDING CODE OF CANADA (NBCC 2015) CANADIAN HIGHWAY BRIDGE DESIGN CODE (CSA-S6-14)
5. REFER TO SPECIFICATIONS FOR ENVIRONMENTAL PROTECTION PROCEDURES, SITE ACCESSIBILITY, AND OTHER REQUIREMENTS, INCLUDING THE ARCHEOLOGY MONITORING REQUIREMENTS.
6. REFER TO SPECIFICATIONS FOR BACKFILL MATERIALS & COMPACTION REQUIREMENTS.
7. COMPLY WITH ALL FEDERAL, PROVINCIAL & LOCAL BYLAWS AND ACQUIRED ALL NECESSARY PERMIT FOR THE CONSTRUCTION WORK AS REQUIRED.
8. COMPLY WITH ALL WORKSAFE BRITISH COLUMBIA ACCIDENT PREVENTION REGULATIONS.
9. TEMPORARY CHAIN LINK FENCE, HOARDING & TREE PROTECTION BARRIER MUST BE COMPLETED PRIOR TO COMMENCEMENT OF THE CONSTRUCTION WORK AS REQUIRED.
10. IT IS CONTRACTOR'S RESPONSIBILITY TO OBTAIN ACCESS/AUTHORIZATION AS NEEDED TO ACCESS THE SITE AND WORK AT THE SITE, INCLUDING THE STAGING AREAS, WHERE THE CONTRACTOR ALLOWS TO USE FOR TEMPORARY STORAGE AND CONSTRUCTION. THE STAGING AREA SHALL BE REINSTATED TO ITS ORIGINAL CONDITION UPON COMPLETION OF THE CONSTRUCTION.

FIELD REVIEW:

1. DEPARTMENTAL REPRESENTATIVE THROUGH CWMM CONSULTING ENGINEERS PROVIDES FIELD REVIEW FOR THE WORK SHOWN ON THE STRUCTURAL DRAWINGS PREPARED BY CWMM CONSULTING ENGINEERS LTD. THIS REVIEW IS A PERIODIC REVIEW AT THE PROFESSIONAL JUDGMENT OF CWMM CONSULTING ENGINEERS LTD. THE PURPOSE IS TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY CWMM CONSULTING ENGINEERS LTD. AND TO FULFILL THE REQUIREMENTS FOR THE COMPLETION OF LETTERS OF ASSURANCE REQUIRED BY THE APPLICABLE BUILDING CODE.
2. ALL NON-CONFORMING WORKS THAT REQUIRE REMEDIAL ACTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY EXTRA TIME OR COST INCURRED TO PARKS CANADA IN RECTIFYING THE WORK SHALL BE BORNE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT.

DESIGN LOADS:

1. THIS PEDESTRAIN BRIDGE IS A CLASS A1 BRIDGE IN THE REMOTE SITE DEFINED IN THE PARKS CANADA DIRECTIVE FOR DESIGN, CONSTRUCTION, AND INSPECTION OF VEHICULAR AND PEDESTRIAN BRIDGES EXCEPT WITH DESIGN LOADS IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE CSA-S6-14. THE CLIMATE DATA ARE OBTAINED FROM NATIONAL BUILDING CODE OF CANADA (NBCC 2015).
- GROUND SNOW: Ss = 1.1 kPa
RAIN LOAD: Sr = 0.4 kPa
- IMPORTANCE FACTORS FOR SNOW Is = 1.0 FOR STRENGTH
Is = 0.9 FOR SERVICEABILITY
- WIND LOAD: PROBABILITY 1/10 = 0.53 kPa
PROBABILITY 1/50 = 0.68 kPa
- IMPORTANCE FACTORS FOR WIND Iw = 1.00 FOR STRENGTH
Iw = 0.75 FOR SERVICEABILITY
- EARTHQUAKE FACTORS:
- | Sa(0.2) | Sa(0.5) | Sa(1.0) | Sa(2.0) | Sa(5.0) | Sa(10) |
|---------|---------|---------|---------|---------|--------|
| 1.46 | 1.36 | 0.891 | 0.536 | 0.17 | 0.06 |
- I_E = 1.0 FOR STRENGTH
I_E = 1.0 FOR SERVICEABILITY
(CLAUSE 4.1.8.13 FOR SERVICEABILITY)
F_(0.2) = 1.0 F_(0.5) = 1.0
R_d = 1.5 R_o = 1.3
- ASSUME SITE CLASS C
- SPECIFIED UNIFORM LIVE LOADS ON BRIDGE: 1.6 kPa FOR STRENGTH
MAXIMUM NUMBER OF 50 PERSONS ON BRIDGE: FOR SERVICEABILITY

FOUNDATION AND SITE WORK

1. REFER TO GEOTECHNICAL REPORT PREPARED BY WSP DATED OCT. 24, 2017 AND ALL ITS SUPPLEMENTS AND AMENDMENTS FOR EXCAVATION, BACKFILLING, FILL MATERIALS, COMPACTION, FROST PROTECTION, ROCK ANCHOR EMBED AND OTHER SITE PREPARATION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
2. DESIGN SOIL BEARING CAPACITIES (AS PER GEOTECHNICAL REPORT):
PAD / STRIP FOOTINGS SLS = 150 kPa
ULS = 300 kPa
3. DESIGN LOAD FOR ROCK ANCHORS SHALL BE:
- 43mmØ (#14) ROCK ANCHORS
FACTOR DESIGN LOAD (ULS) = 400 kN
TRANSFER LOAD (SLS) = 290 kN
ESTIMATE ANCHOR BOND LENGTH INTO BED ROCK = 7.5 m
- 28mmØ (#9) ROCK ANCHORS
FACTOR DESIGN LOAD = 170 kN
TRANSFER LOAD (SLS) = 125 kN
ESTIMATE ANCHOR BOND LENGTH INTO BED ROCK = 4.0 m
- 19mmØ (#6) ROCK ANCHORS
FACTOR DESIGN LOAD = 90 kN
TRANSFER LOAD (SLS) = 65 kN
ESTIMATE ANCHOR BOND LENGTH INTO BED ROCK = 3.0 m
4. ANY FOOTING ELEVATIONS INDICATED ON THE DRAWINGS ARE GENERAL AND SHALL BE USED FOR ESTIMATING AND BIDDING PURPOSES. FOOTINGS MAY HAVE TO BE PLACED AT DIFFERENT ELEVATIONS AS A RESULT OF LOCAL SOILS CONDITIONS.
5. THE ROCK ANCHOR BOND LENGTH INDICATED ON THE DRAWINGS AND THE GEOTECHNICAL REPORT ARE GENERAL AND SHALL BE USED FOR ESTIMATE AND BIDDING PURPOSES. ACTUAL ANCHOR BOND LENGTH MAY VARY AS A RESULT OF LOCAL GROUND CONDITIONS AND OTHER UNKNOWN FACTORS.
6. THE BASES OF FOUNDATIONS SHALL BE PROTECTED FROM RAIN, SNOW AND ANY WATER INFILTRATION.
7. NO FOUNDATIONS MAY BE POURED BEFORE THE BEARING MATERIAL HAS BEEN INSPECTED BY THE DEPARTMENTAL REPRESENTATION NOTIFY THE DEPARTMENTAL REPRESENTATION MINIMUM 48 HOURS BEFORE INSTALLATION OF FOOTING REINFORCEMENT.

REINFORCED CONCRETE

1. CONCRETE STRENGTH:
- | MEMBER | MINIMUM
28-DAYS
STRENGTH
(MPa) | MAXIMUM
AGGREGATE
SIZE
(mm) | EXPOSURE
CLASS | AIR
CONTENT
CATEGORY |
|-----------------------|---|--------------------------------------|-------------------|----------------------------|
| FOUNDATION / ABUTMENT | 30 | 20 | F-2 | 2 |
2. REFER TO SPECIFICATIONS FOR CONCRETE PROPERTIES, EXPOSURE CLASS & OTHER REQUIREMENTS.
3. REINFORCING BARS f_y = 400 MPa. ALL DOWELS ANCHOR BOLTS AND INSERTS SHALL BE PLACED BEFORE THE CONCRETE IS POURED.
4. PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT AS FOLLOWS:
- | | |
|------------------------------|------|
| CAST AGAINST EARTH | 75mm |
| EXPOSED TO EARTH OR WEATHER: | 50mm |
| ELSEWHERE: | 40mm |
5. UNLESS NOTED OTHERWISE, PROVIDE MINIMUM SPLICE LENGTHS TO REINFORCEMENT AS FOLLOWS:
- | | |
|-----|--------|
| 15M | 750mm |
| 20M | 1000mm |
| 25M | 1500mm |

STRUCTURAL STEEL

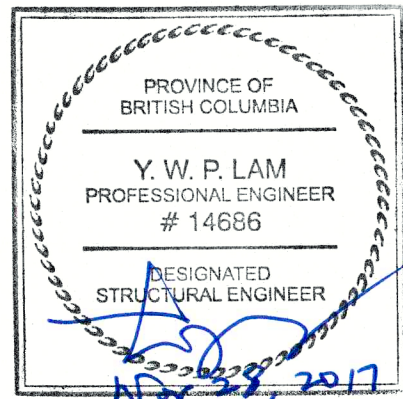
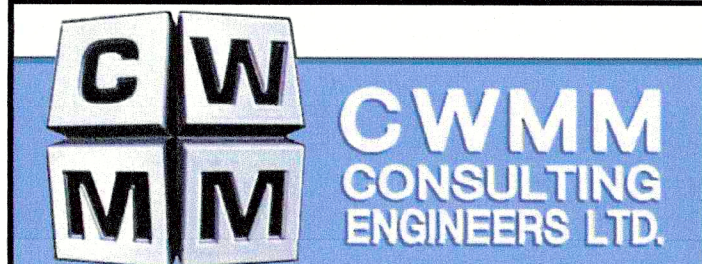
1. REFER TO SPECIFICATIONS FOR STEEL WORK, STEEL CONFORMANCE, DESIGN CODE REFERENCES AND OTHER REQUIREMENTS.
2. GRADES OF MATERIALS :
W BEAMS 350W
STRUCTURAL STEEL AND MISC. METAL 300W
BOLTS, NUTS AND WASHERS ASTM A325

STRUCTURAL ALUMINUM

1. REFER TO SPECIFICATIONS FOR ALUMINUM WORK, ALUMINUM CONFORMANCE, DESIGN CODE REQUIREMENTS AND OTHER REQUIREMENTS.
2. GRADES OF MATERIALS:
WF SHAPES 6061-T6 (MIN. Fy = 241 MPa, TYPICAL)
RT SHAPES 6061-T6
C SHAPES 6061-T6
SHEET & PLATE 6061-T6
GALVANIZED STEEL BOLT CAN/CSA-G164, MIN. ZINC COATING OF 610 g/m²
3. CONFIRM ALL LOCATIONS, DIMENSIONS AND ELEVATIONS WITH ACTUAL SITE MEASUREMENTS BEFORE FABRICATION.
4. SUBMIT MILL REPORTS SHOWING CHEMICAL AND PHYSICAL PROPERTIES AND OTHER DETAILS OF ALUMINUM TO BE INCORPORATED INTO WORK, AT LEAST 4 WEEKS PRIOR TO FABRICATION OF STRUCTURAL ALUMINUM. MILL TEST REPORT SHALL BE CERTIFIED BY METALLURGISTS QUALIFIED TO PRACTICE OF B.C., CANADA.
5. ALL MAIN CONNECTION BOLTS SHALL BE MINIMUM M20 AND SHALL BE GALVANIZED WITH MINIMUM ZINC COATING OF 610 g/m². USE MINIMUM TWO BOLTS FOR CONNECTION. ALL WELDS SHALL BE 6mm LEG MINIMUM.
6. PROVIDE SPLICES AS INDICATED ON DRAWINGS. UNLESS NOTED OTHERWISE, ALL CONTINUOUS ELEMENTS CALLED UP ON THE DRAWINGS SHALL BE PROVIDED WITH FULL STRENGTH SPLICE EITHER BY FULL STRENGTH GROOVE WELD OR BY FULL STRENGTH SPLICE PLATES ON EACH END OF THE CONNECTING ELEMENTS.

ABBREVIATIONS

A.BOLT	ANCHOR BOLT	L.V.	LENGTH VARIES
ALT.	ALTERNATE	LG.	LONG
ARCH.	ARCHITECTURAL	LL	LONG LEVEL
BLDG.	BUILDING	LLV	LONG LEG VERTICAL
BOT.	BOTTOM	LLH	LONG LEG HORIZONTAL
BTW.	BETWEEN	LONG.	LONGITUDINAL
C/C	CENTER TO CENTER	MAX.	MAXIMUM
C/W	COMPLETE WITH	MECH.	MECHANICAL
C.I.P.	CAST IN PLACE	MIN.	MINIMUM
CANT.	CANTILEVER	N/A	NOT AVAILABLE
CL	CLEAR	N.S.	NEAR SIDE
COL.	COLUMN	N.STUD	NELSON STUD
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CONT.	CONTINUOUS	O/C	ON CENTRES
DL	DEAD LOAD	OPP.	OPPOSITE HAND
DN	DOWN	OWSJ	OPEN WEB STEEL JOIST
DO.	DITTO	P.C.	PRECAST CONCRETE
DP.	DEEP	PL	PLATE
DWG.	DRAWING	PLY.	PLYWOOD
E.W.	EACH WAY	PROJ.	PROJECTION
E.F.	EACH FACE	R/W	REINFORCED WITH
ELEC.	ELECTRICAL	R/C	REINFORCED CONCRETE
ELEV.	ELEVATION	S.O.G.	SLAB ON GRADE
EXIST.	EXISTING	SIM.	SIMILAR
EXT.	EXTERIOR	STAGG.	STAGGERED
FL	FLOOR	T&B	TOP AND BOTTOM
F.S.	FAR SIDE	T&G	TONGUED & GROOVED
FDN.	FOUNDATION	T.O.C/S	TOP OF CONCRETE/STEEL
FTG.	FOOTING	THK.	THICK
G.L.	GRID LINE	TJ	TIE JOIST
GALV.	GALVANIZED	TRAN.	TRANSVERSE
H1E	HOOK ONE END	TYP.	TYPICAL
H2E	HOOK TWO ENDS	U/S	UNDERSIDE
HL	HIGH LEVEL	U.N.O.	UNLESS NOTED OTHERWISE
HORIZ.	HORIZONTAL	VERT.	VERTICAL
INT.	INTERIOR		
D.R.	DEPARTMENTAL REPRESENTATIVE		



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PARKS CANADA

WESTERN AND NORTHERN REGION

Project title/Titre du projet

**PACIFIC RIM NATIONAL PARK RESERVE
VANCOUVER ISLAND, B.C.**

**WEST COAST TRAIL
LOGAN CREEK BRIDGE**

Consultant Signature Only

Designed by/Concept par
PL / SZ

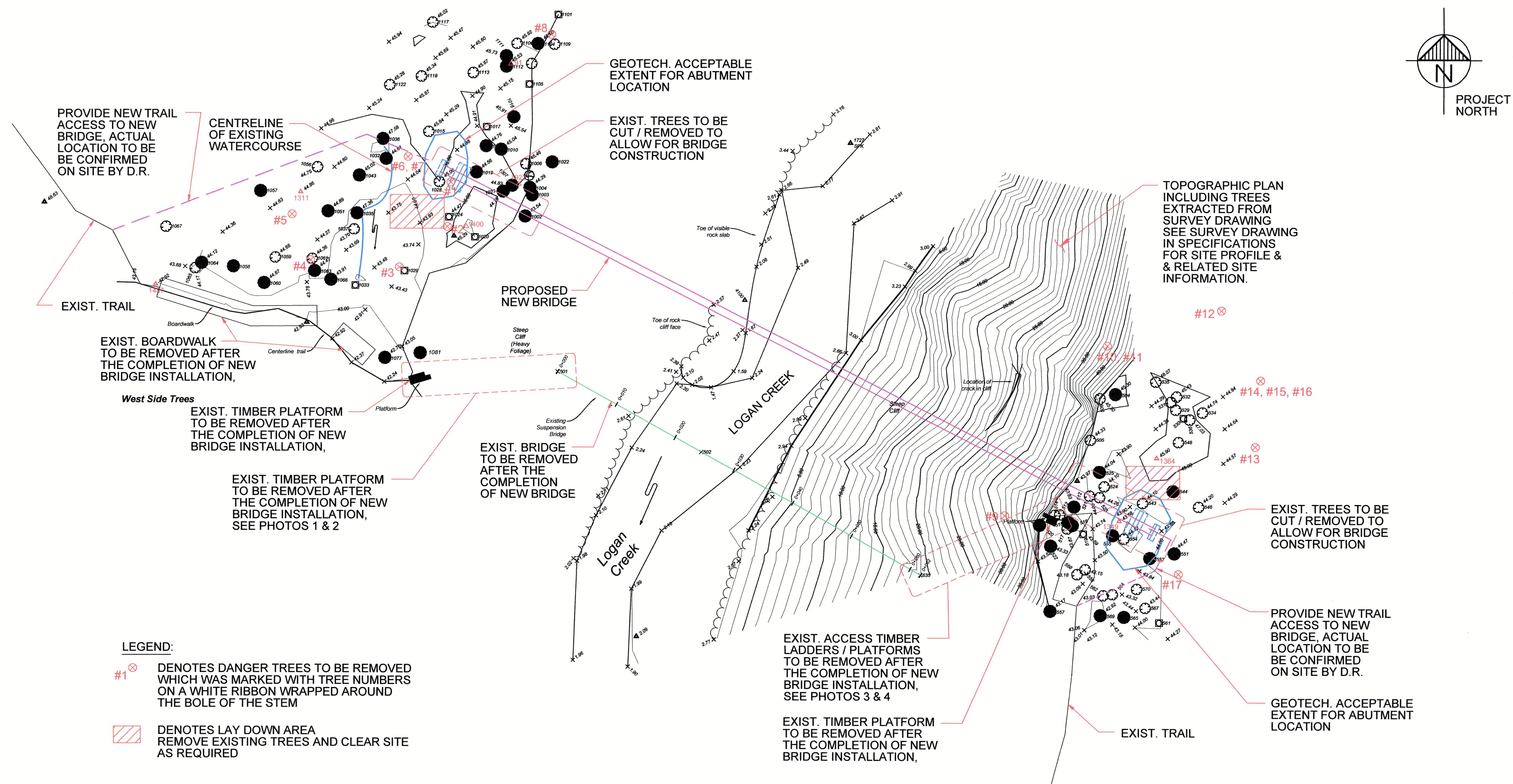
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Drawing title/Titre du dessin

GENERAL NOTES

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SITE PLAN

1:400

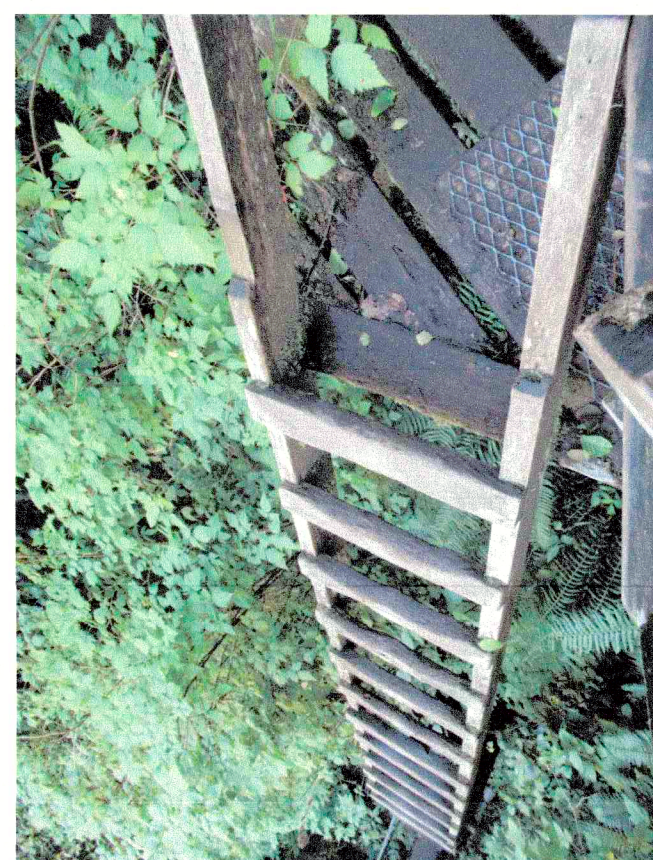


PHOTO 1

EXISTING ACCESS TIMBER LADDERS / PLATFORMS
TO EXIST. BRIDGE AT WEST SIDE

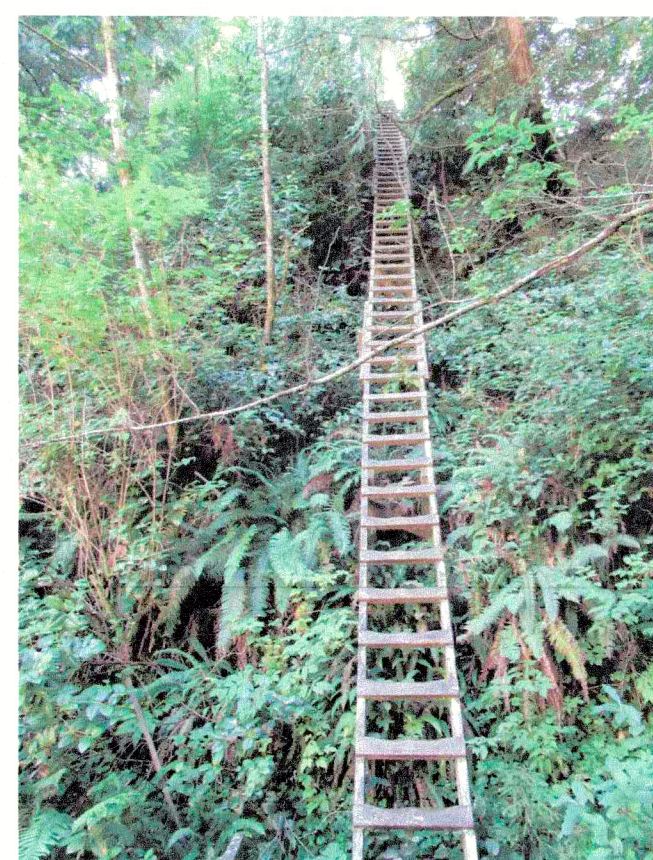


PHOTO 2



PHOTO 3

EXISTING ACCESS TIMBER LADDERS / PLATFORMS
TO EXIST. BRIDGE AT EAST SIDE

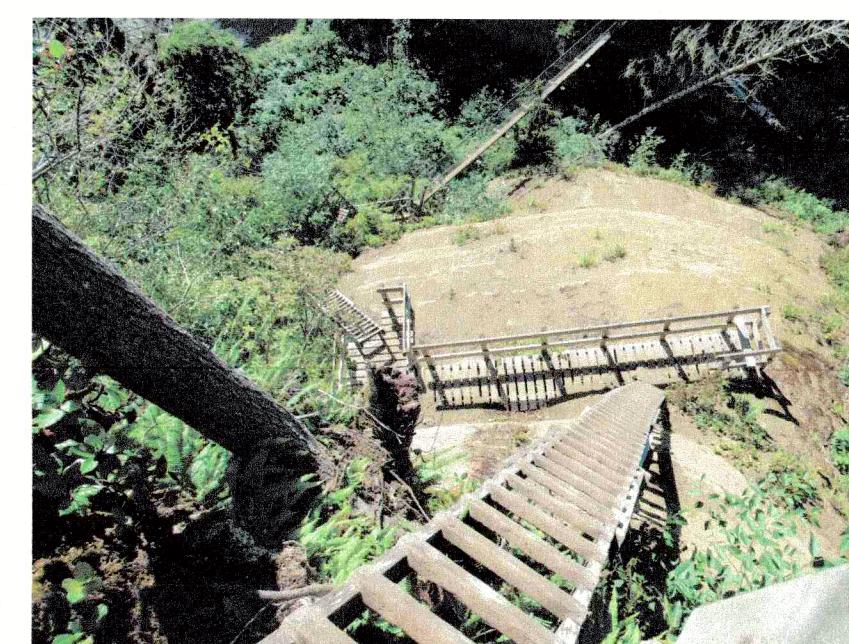
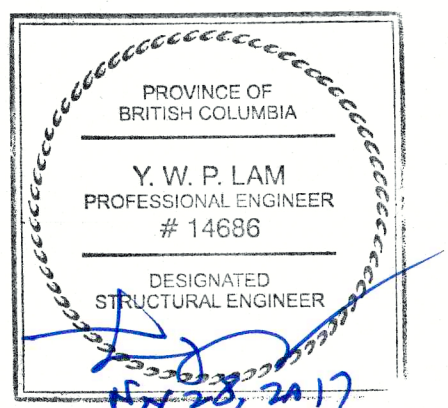


PHOTO 4



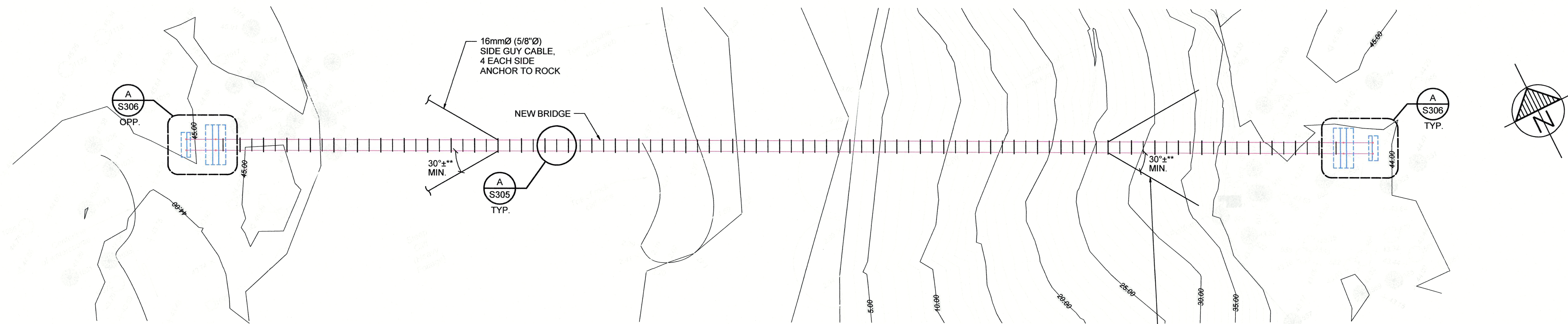
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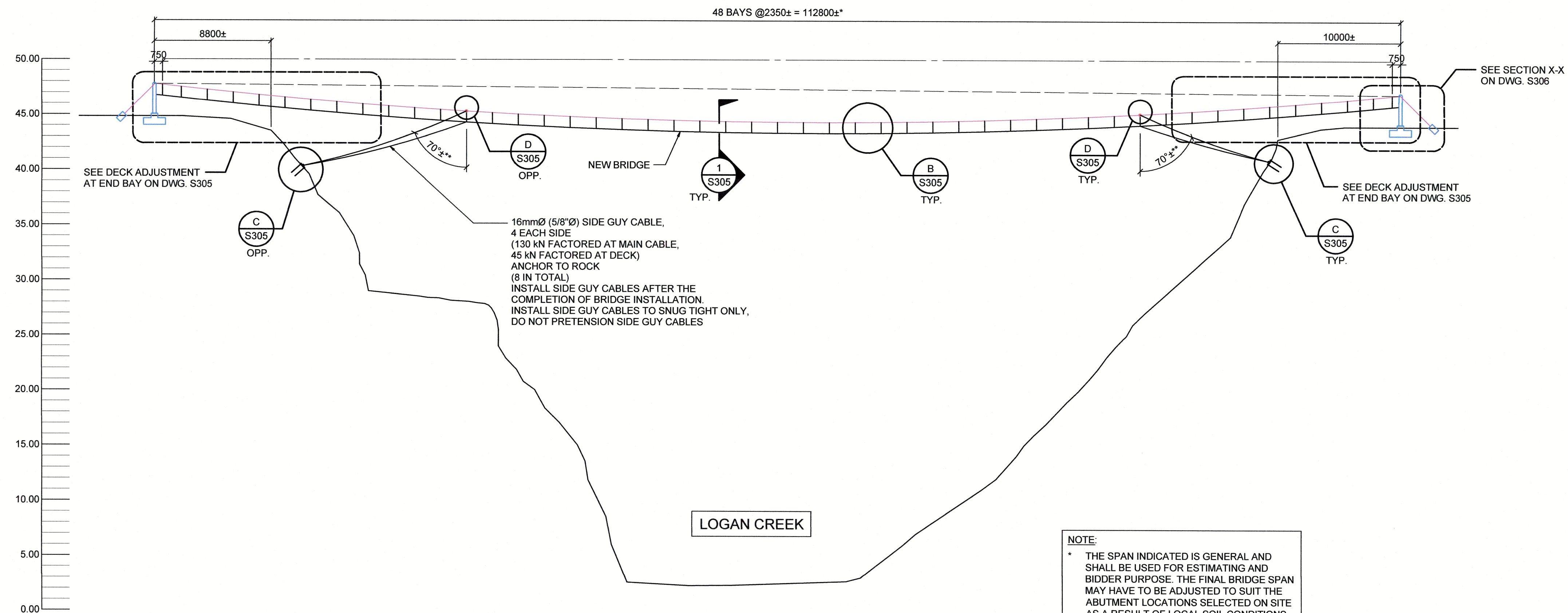
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SITE PLAN



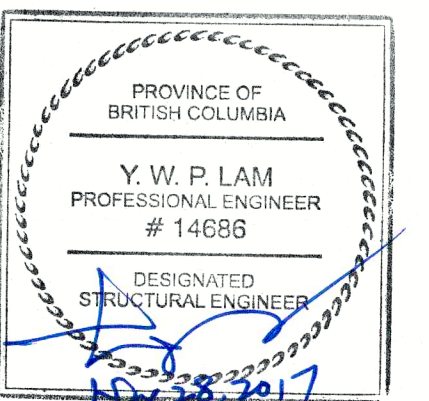
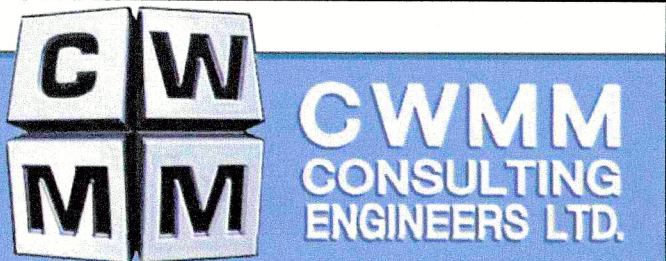
NEW BRIDGE PLAN VIEW
1:250

SEE DWG. S304 FOR GEOTECH. ALLOWABLE BOUNDARY FOR ABUTMENT LOCATION & EXISTING SITE PHOTOS AROUND THE PROPOSED ABUTMENT LOCATIONS



NEW BRIDGE ELEVATION VIEW
1:250

NOTE:
* THE SPAN INDICATED IS GENERAL AND SHALL BE USED FOR ESTIMATING AND BIDDER PURPOSE. THE FINAL BRIDGE SPAN MAY HAVE TO BE ADJUSTED TO SUIT THE ABUTMENT LOCATIONS SELECTED ON SITE AS A RESULT OF LOCAL SOIL CONDITIONS. REFER TO DWG. S304 FOR ABUTMENT LOCATIONS
** ANGLE TO BE CONFIRMED ON SITE.



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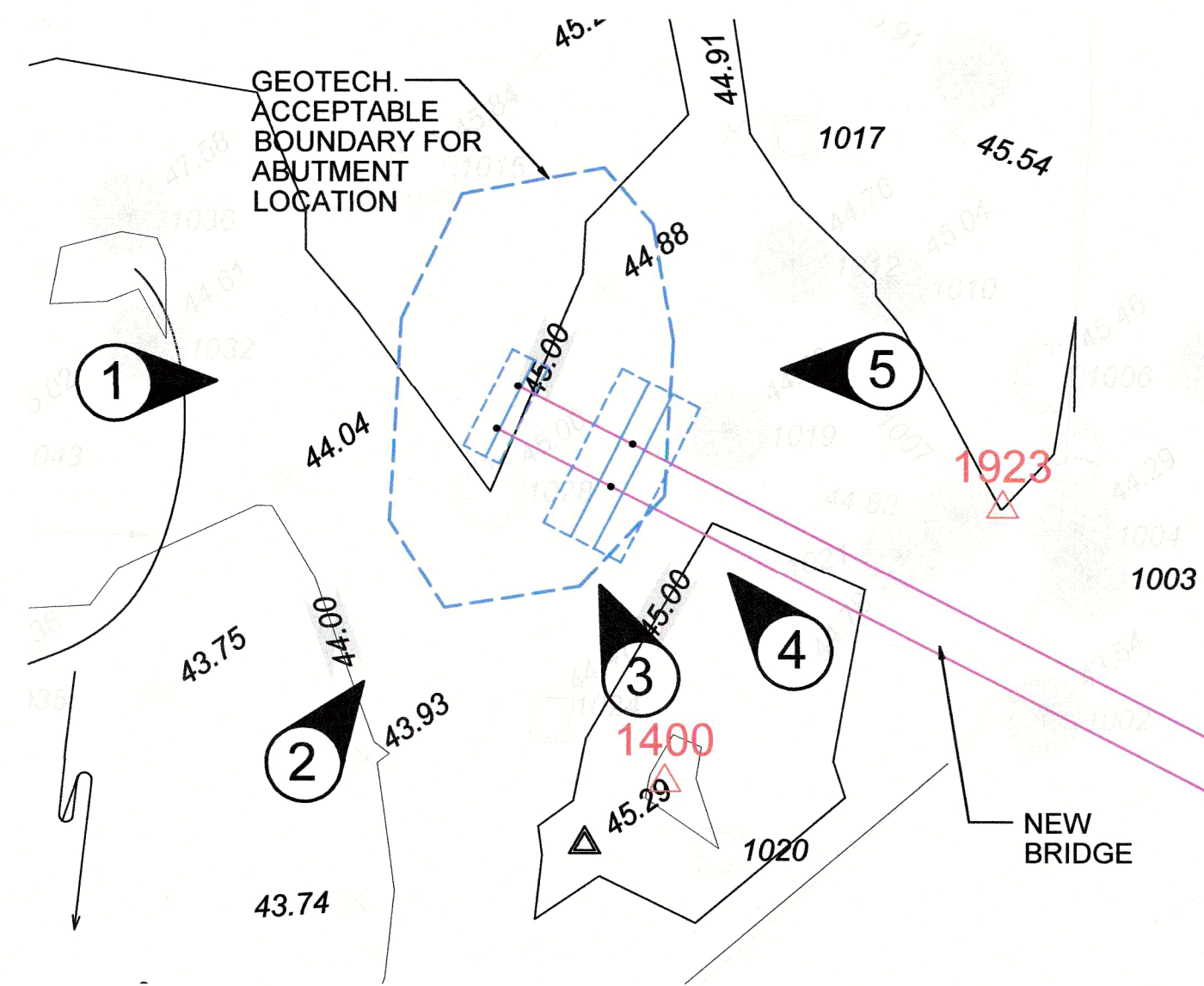
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**NEW BRIDGE PLAN VIEW &
ELEVATION VIEW**

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BRIDGE WEST ABUTMENT LOCATION PLAN

1:150

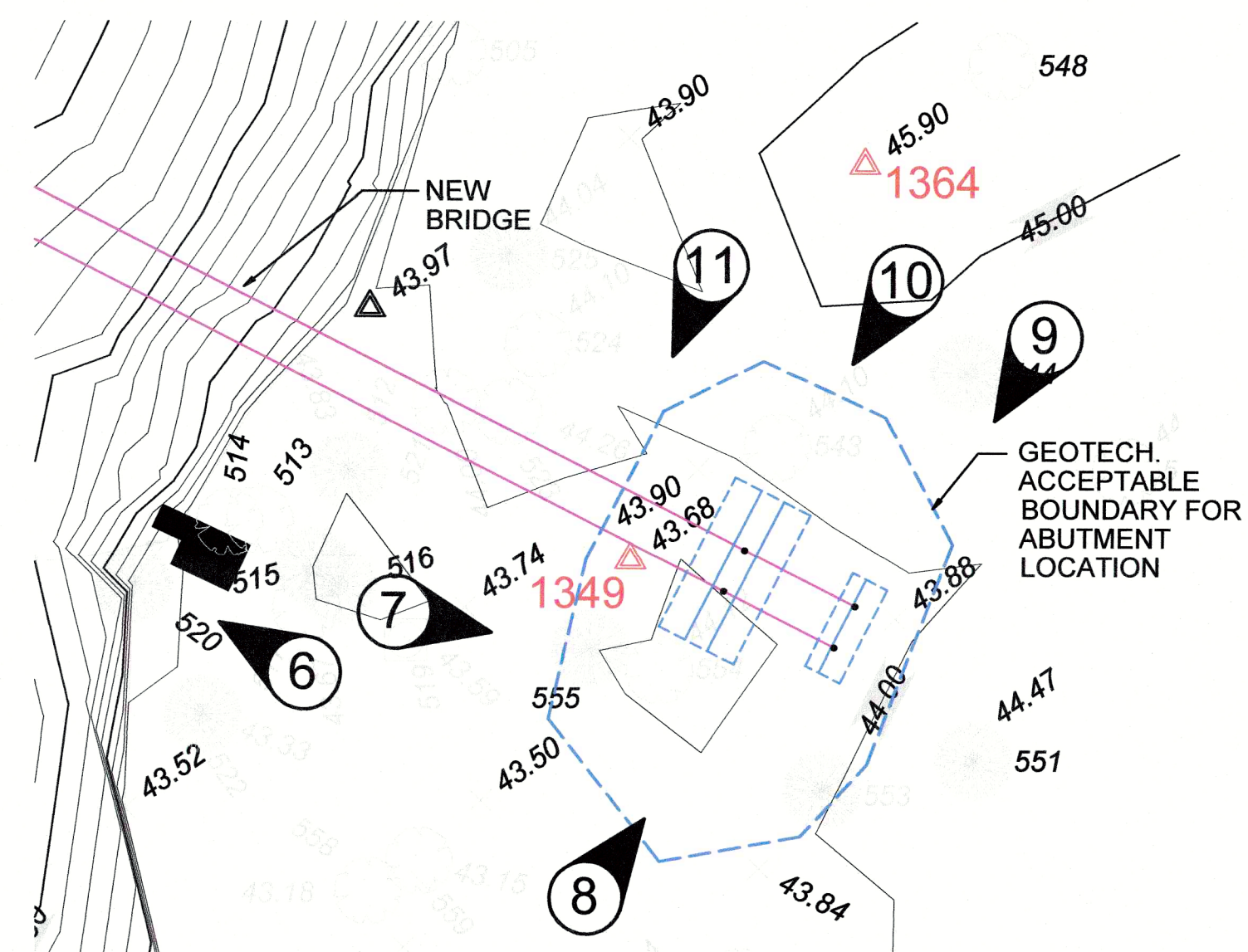
LEGEND:

△ 1364 - DENOTES SURVEY HUB

NOTE:

THE ABUTMENT LOCATIONS ARE GENERAL FOR ALIGNMENT & BRIDGE SPAN ONLY. THE FINAL ABUTMENT LOCATIONS MAY HAVE TO BE MOVED BY UP TO 3m WITHIN THE BOUNDARY SHOWN SUBJECT TO FINAL REVIEW OF SOIL CONDITION BY THE DEPARTMENTAL REPRESENTATIVE AFTER THE SITE CLEARING AND GRUBBING.

THE PARTIAL TOPOGRAPHIC PLANS FOR LOCATING NEW BRIDGE ABUTMENTS ABOVE ARE EXTRACTED FROM SURVEY DRAWINGS. REFER TO SURVEY DRAWINGS IN SPECIFICATION FOR INFORMATION, SUCH AS TREES, SITE CONTOUR & PROFILE, SURVEY HUB, ETC.

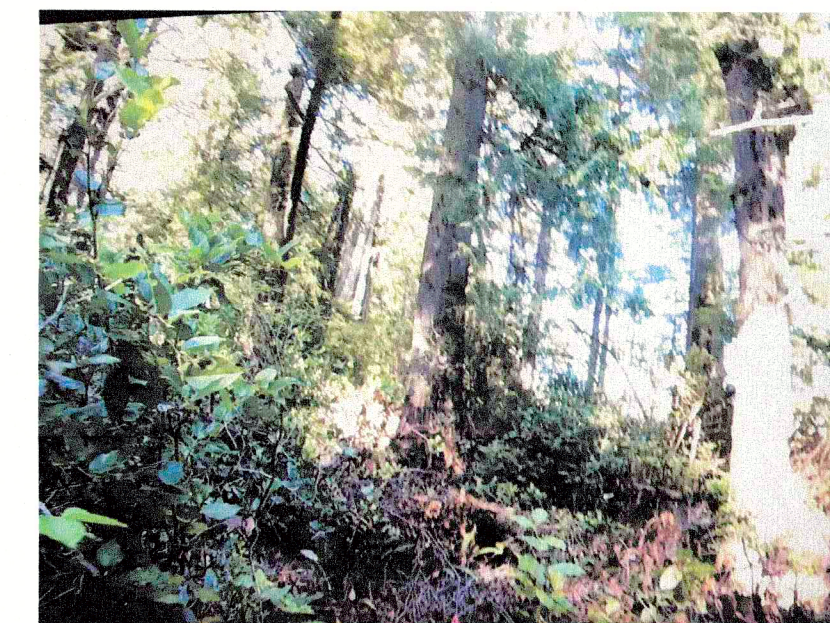


BRIDGE EAST ABUTMENT LOCATION PLAN

1:150



VIEW 1



VIEW 2



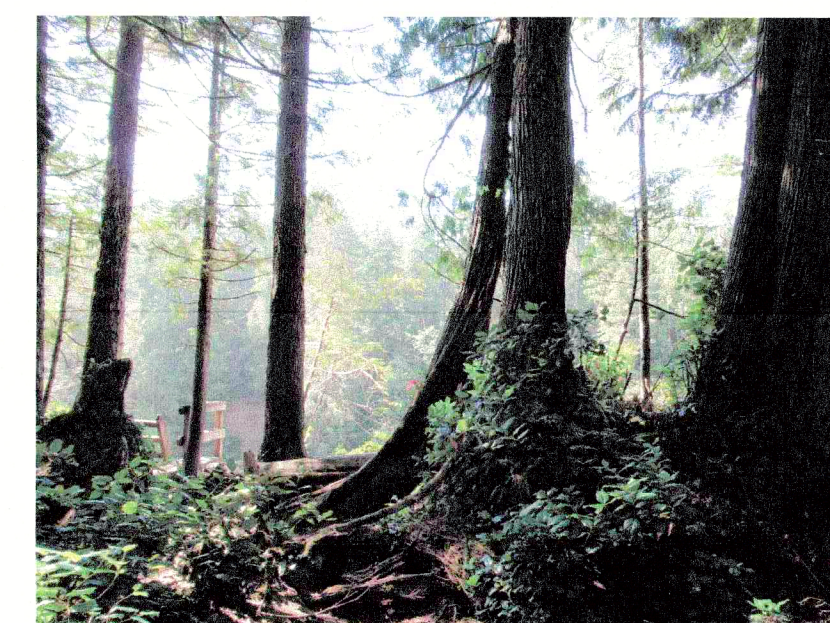
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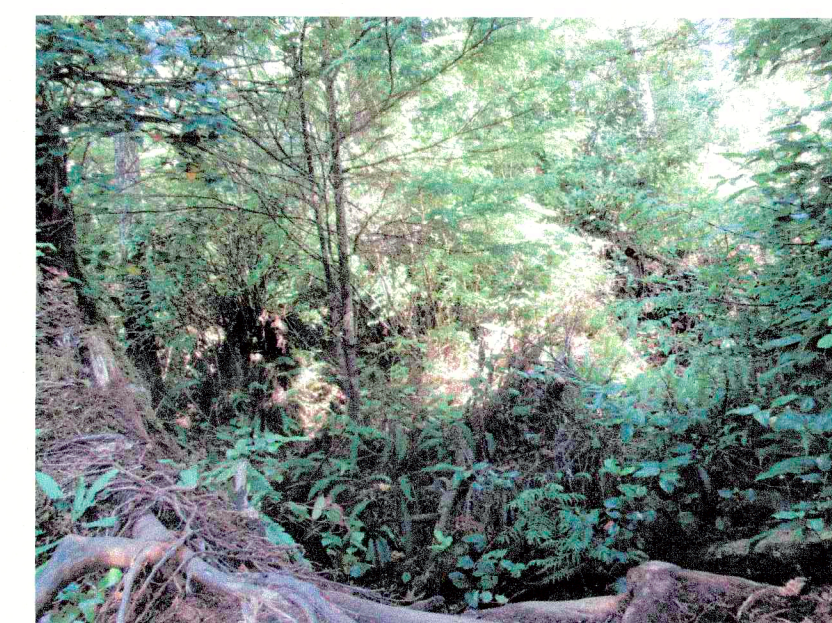
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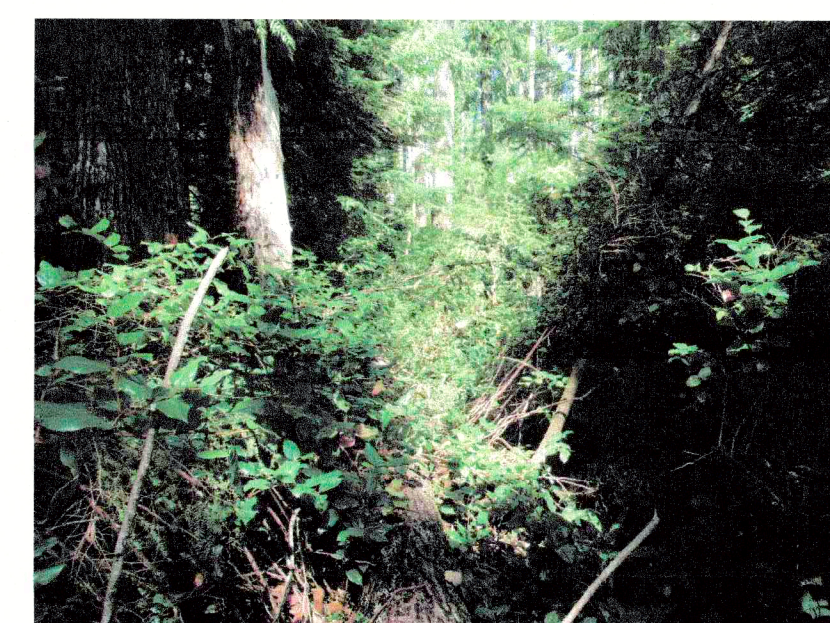
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VIEW 6



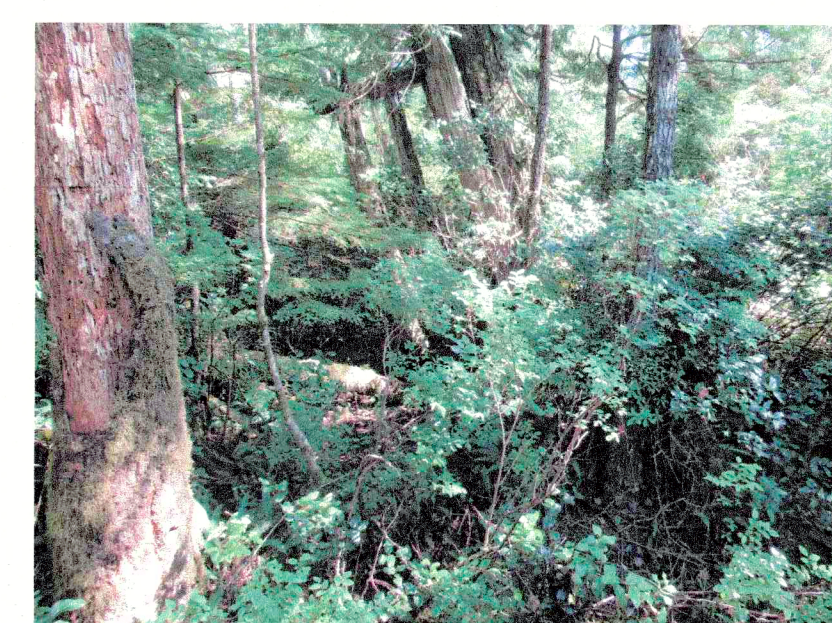
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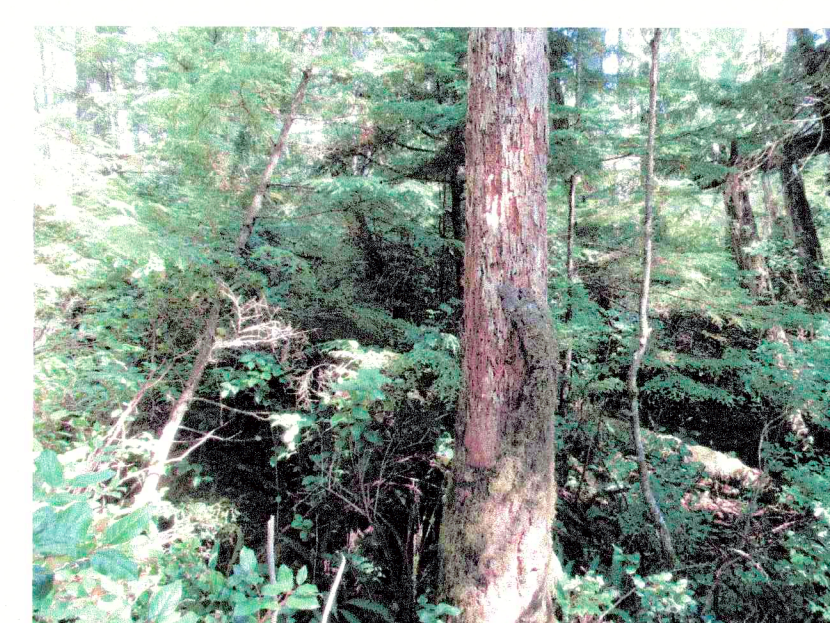
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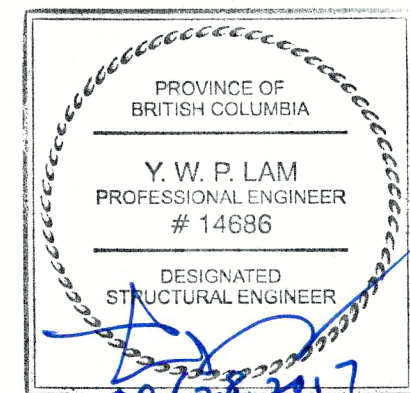
VIEW 9



VIEW 10



VIEW 11



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WEST COAST TRAIL
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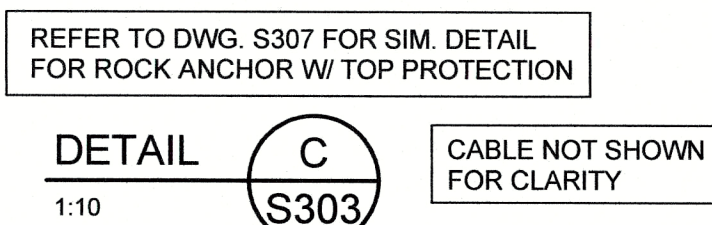
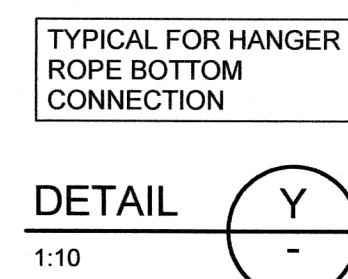
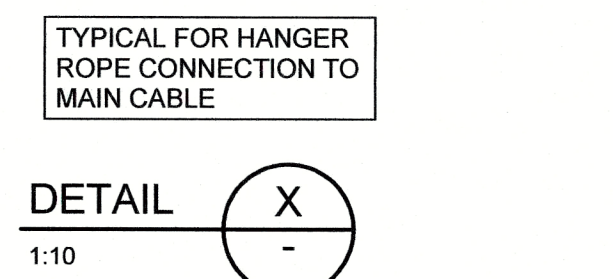
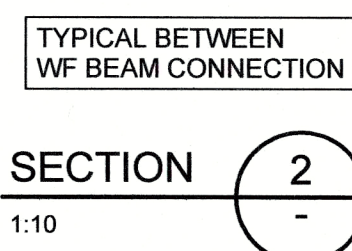
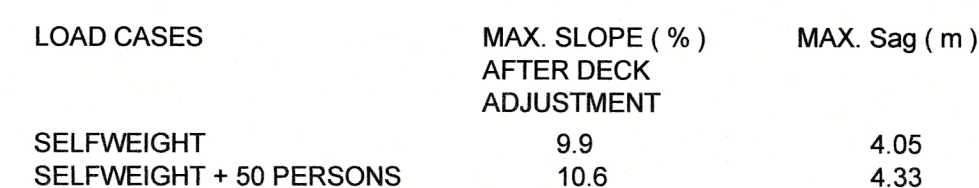
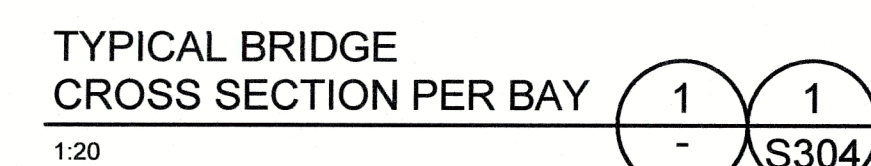
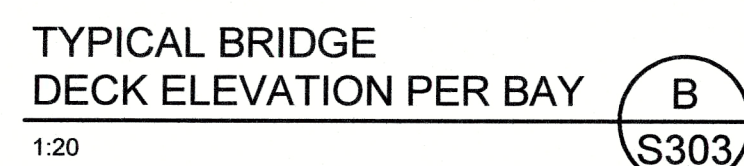
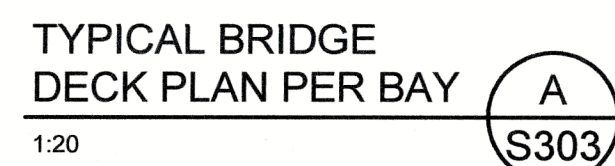
Consultant Signature Only

Designed by/Concept par
PL / SZ

Drawn by/Dessiné par
CAD

Drawing title/Titre du dessin
ABUTMENT LOCATION PLANS
& SITE PHOTOS

Project No./No. du
projet
S304
OF
Revision no./
La Révision
no.
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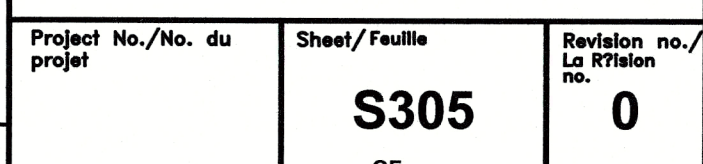


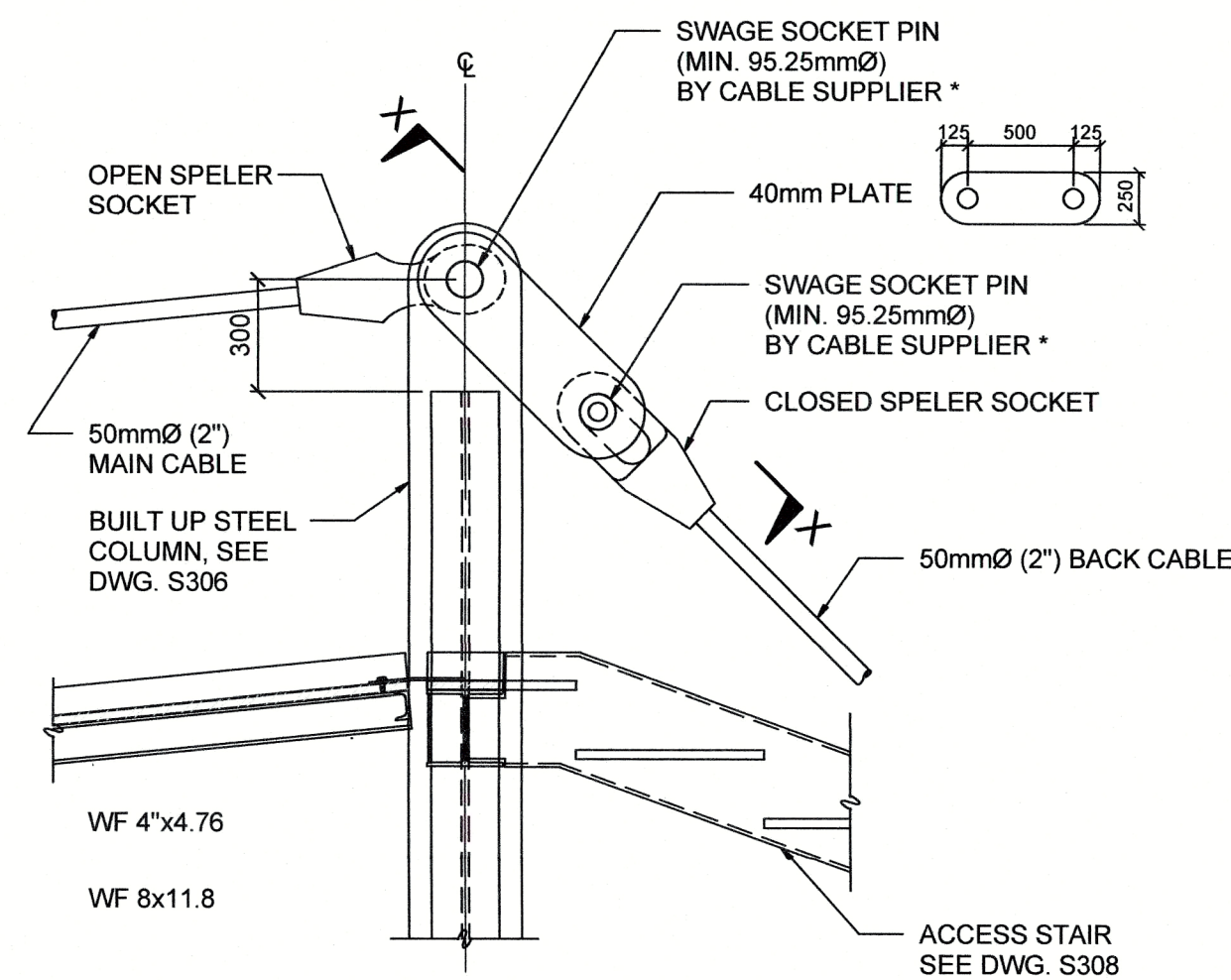
- | HANG ROPE NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------------------------------|-------|------|-------|-------|-------|-------|-------|------|
| HANGER ROPE LENGTH ABOVE DECK (m) | 1.465 | 1.40 | 1.315 | 1.245 | 1.185 | 1.145 | 1.115 | 1.10 |

NOTES:

- ALL STRUCTURAL CABLES & ROPES SHALL BE WITH THE FOLLOWING MATERIAL PROPERTIES:

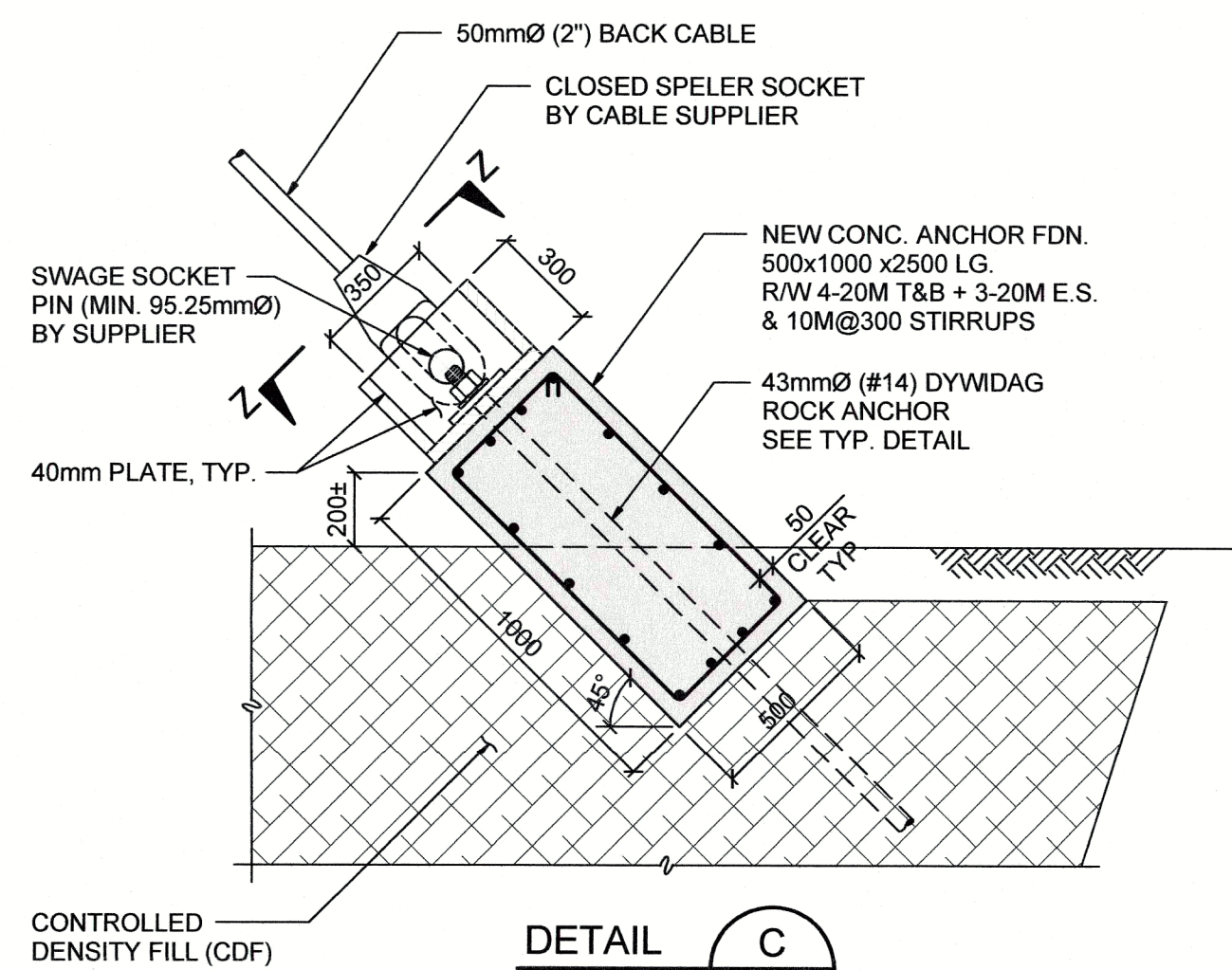
NOMINAL DIAMETER	APPROXIMATE MASS (kg/m)	MIN. BREAKING FORCE (kN)	MIN. MODULUS OF ELASTICITY (MPa)	MATERIAL
50 mm (2")	13.0	2120	158,600	ASTM A-586 GRADE 1
16 mm (5/8")	1.20	203	158,600	ASTM A-586 GRADE 1
13 mm (1/2")	0.77	126	158,600	ASTM A-586 GRADE 1
- ALL STRUCTURAL CABLES & ROPES SHALL BE GALVANIZED WITH CLASS C COATING OR BEZINA® 3000 COATING OR APPROVED EQUIVALENT.
- U.N.O., ALL STRUCTURAL STEEL MEMBERS INCLUDING CONNECTIONS PLATES, BOLTS, WASHERS, ETC. TO BE HOT DIPPED GALVANIZED.
- U.N.O., CONNECTIONS BETWEEN ALUMINUM MEMBERS TO BE DESIGNED, SUPPLIED & INSTALLED BY SUPPLIER, ALL FASTENERS FOR CONNECTION TO BE HOT-DIPPED GALVANIZED STEEL.
- U.N.O., BRIDGE SUPPORT BUILT-UP COLUMNS, BASE PLATE ASSEMBLY FOR BUILT-UP COLUMN, BACK CABLES INCLUDING CONNECTION COMPONENTS TO BE STRUCTURAL STEEL, BRIDGE DECK CONSTRUCTION INCLUDING DECK BEAMS, PLANK, ACCESS STAIR TO BE STRUCTURAL ALUMINUM.



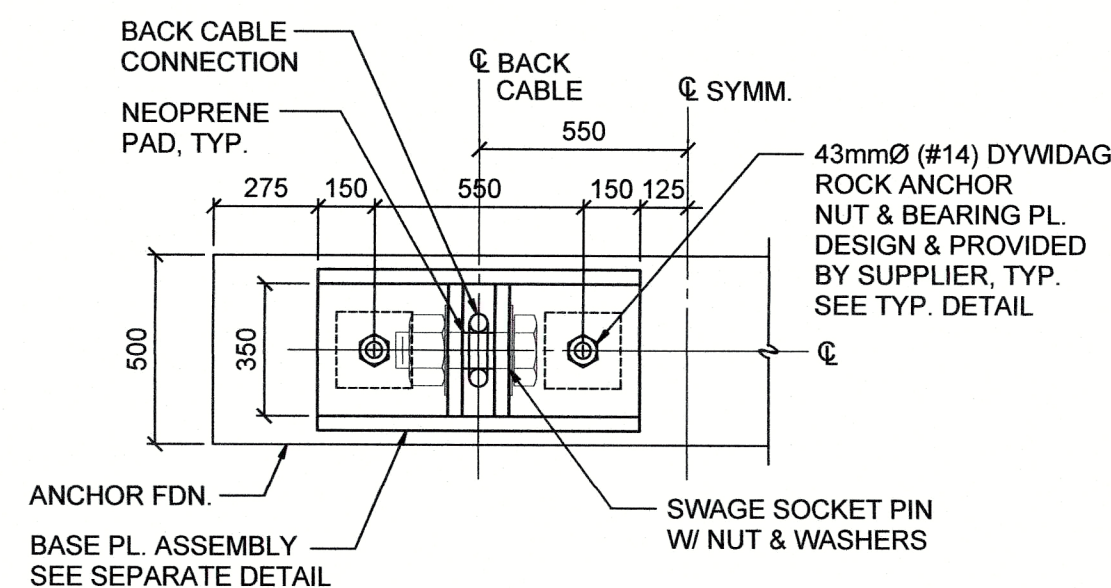


DETAIL B
1:20

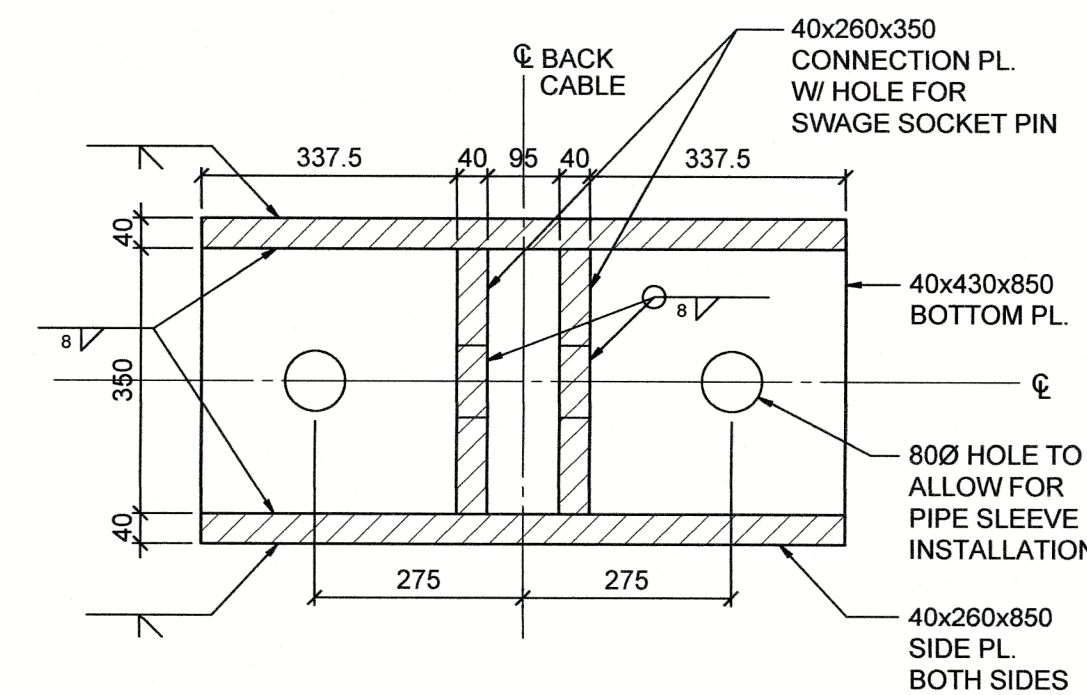
* PIN HOLE DIAMETER NOT MORE THAN 1mm LARGER THAN PIN DIAMETER



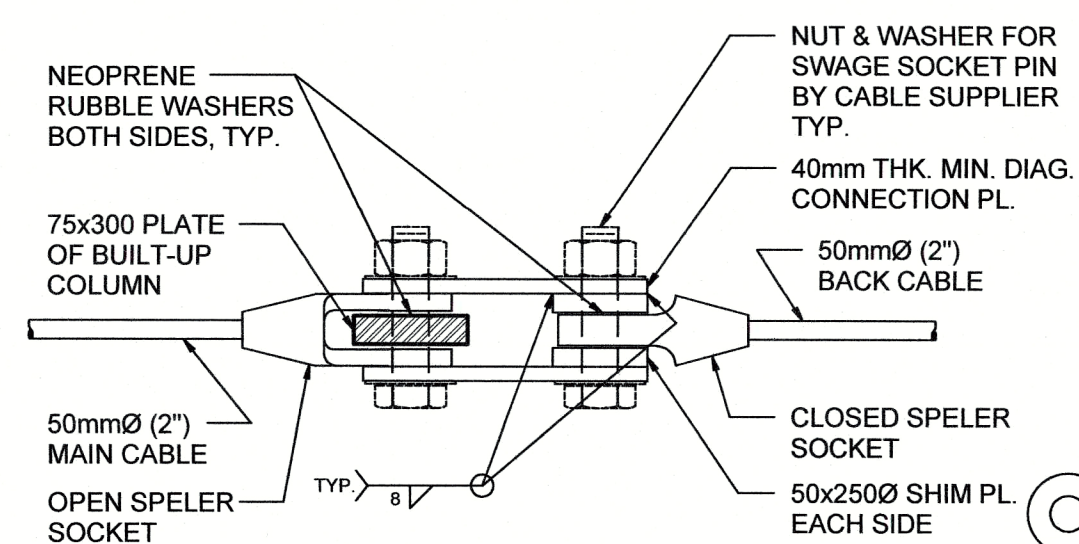
DETAIL C
1:20



SECTION Z-Z
1:20



TYPICAL BASE PLATE ASSEMBLY DETAIL FOR BACK CABLE CONNECTION
1:10



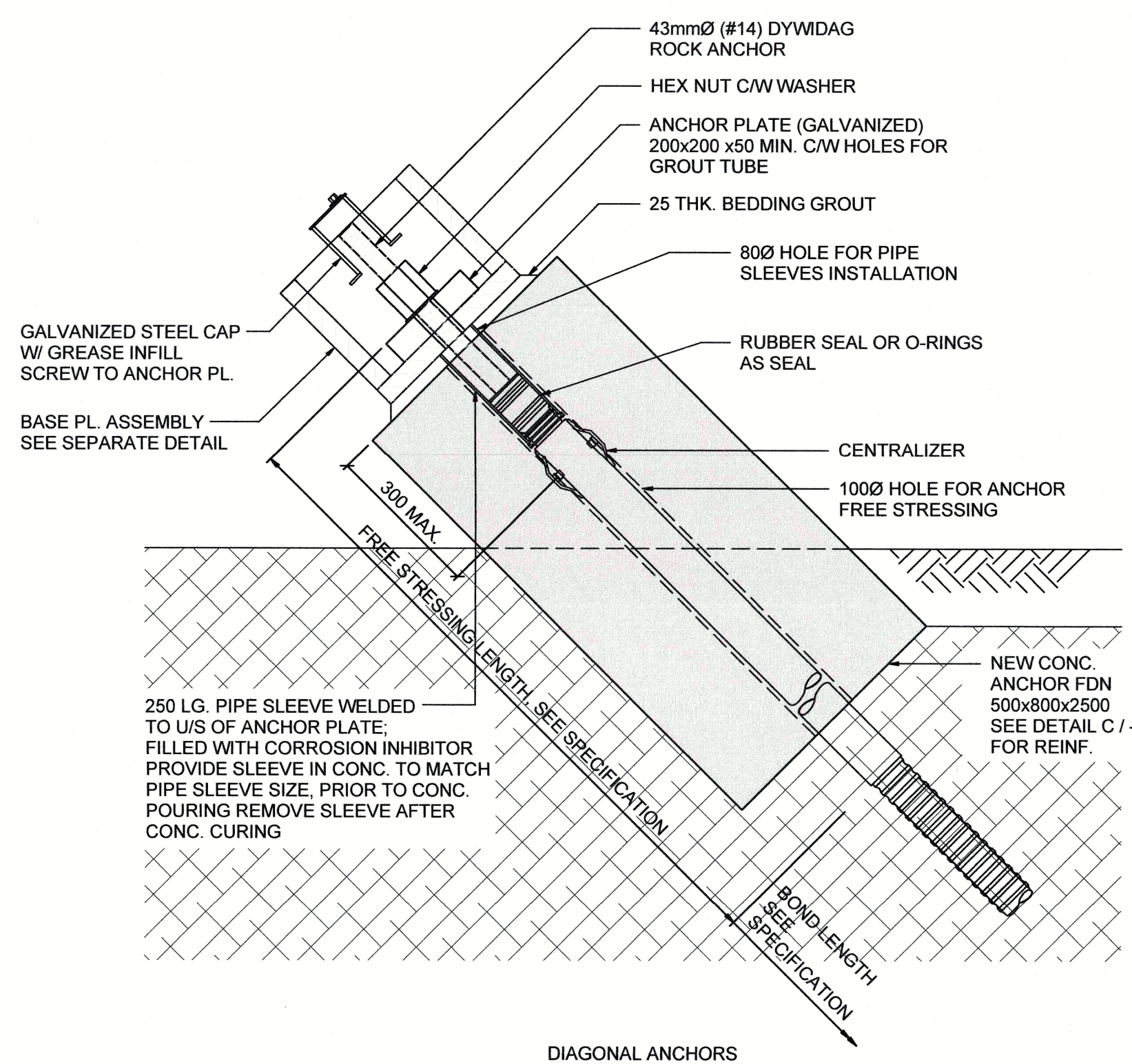
SECTION X-X
1:20

NOTES:

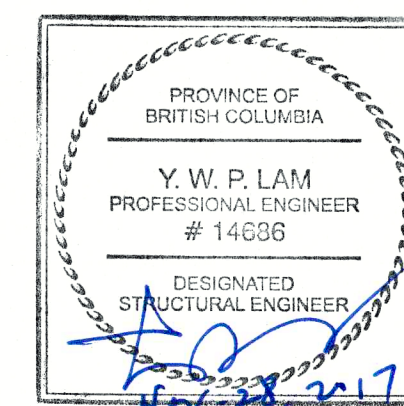
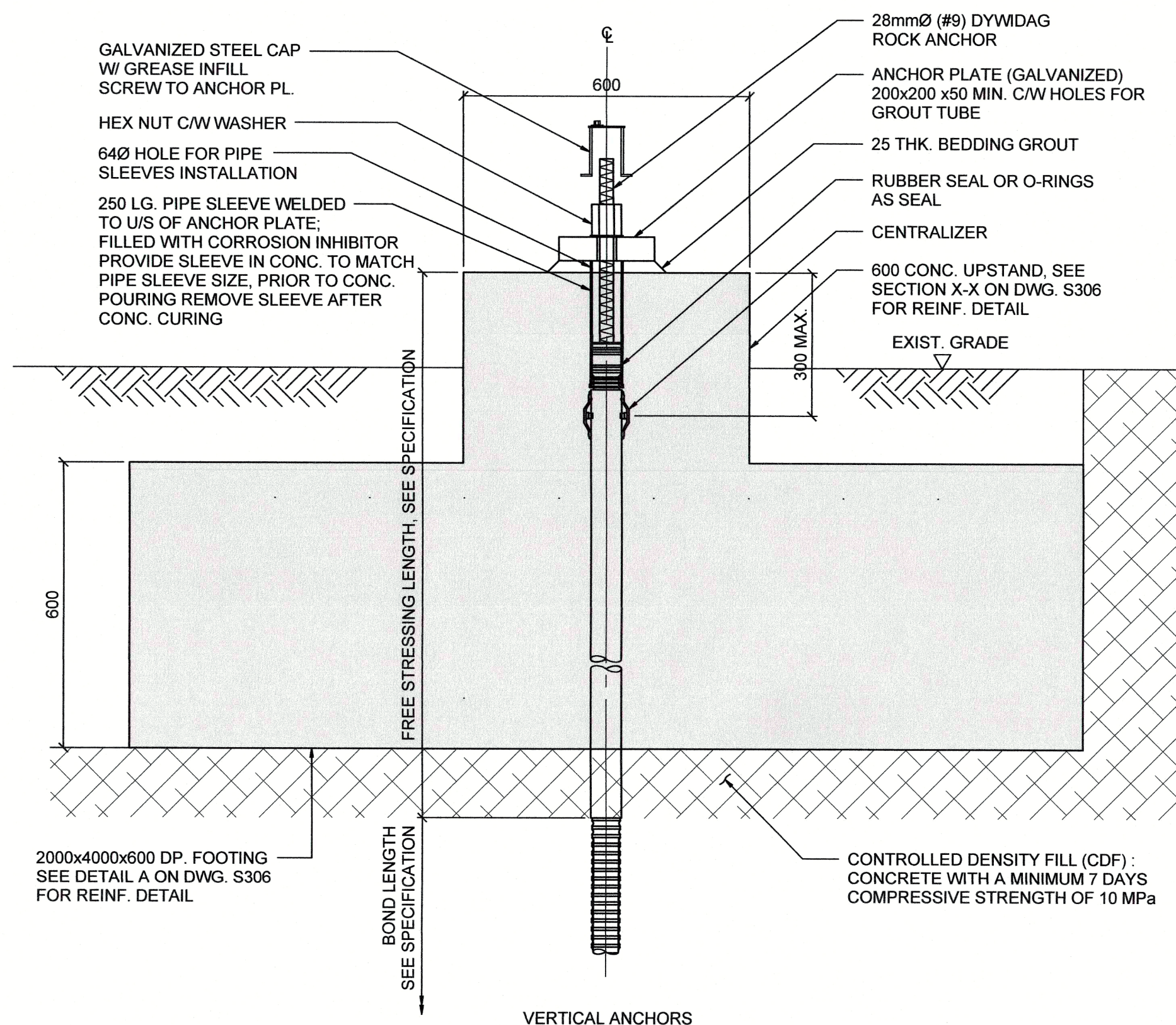
- ALL STRUCTURAL CABLES & ROPES SHALL BE WITH THE FOLLOWING MATERIAL PROPERTIES:

NOMINAL DIAMETER	APPROXIMATE MASS (kg/m)	MIN. BREAKING FORCE (kN)	MIN. MODULUS OF ELASTICITY (MPa)	MATERIAL
50 mm (2")	13.0	2120	158,600	ASTM A-586 GRADE 1
16 mm (5/8")	1.20	203	158,600	ASTM A-586 GRADE 1
13 mm (1/2")	0.77	126	158,600	ASTM A-586 GRADE 1

- ALL STRUCTURAL CABLES & ROPES SHALL BE GALVANIZED WITH CLASS C COATING OR BEZINAL® 3000 COATING OR APPROVED EQUIVALENT.
- U.N.O., ALL STRUCTURAL MEMBERS INCLUDING CONNECTIONS PLATES, BOLTS, WASHERS, ETC. TO BE HOT DIPPED GALVANIZED.
- U.N.O., CONNECTIONS BETWEEN ALUMINUM MEMBERS TO BE DESIGNED, SUPPLIED & INSTALLED BY SUPPLIER. ALL FASTENERS FOR CONNECTION TO BE HOT-DIPPED GALVANIZED STEEL.
- UPPER PORTION OF ANCHOR TO BE GROUTED WITH SECOND STAGE OF GROUTING AFTER ACCEPTABLE PULL TESTING.
- U.N.O., BRIDGE SUPPORT BUILT-UP COLUMNS, BASE PLATE ASSEMBLY FOR BUILT-UP COLUMN, BACK CABLES INCLUDING CONNECTION COMPONENTS TO BE STRUCTURAL STEEL. BRIDGE DECK CONSTRUCTION INCLUDING DECK BEAMS, PLANK, ACCESS STAIR TO BE STRUCTURAL ALUMINUM.
- NEOPRENE RUBBER WASHER TO BE 3mm THK MIN. (SIZE TO MATCH CONNECTION PLATE SIZE.) W/ TENSION STRENGTH OF 6.2 mPa (900 psi) MIN. & W/ MIN. MODERATE RESISTANCE TO OZONE, UV, WEATHER, WATER, OIL, GREASES, SOLVENTS AND GOOD ABRASIVE PERFORMANCE.



TYPICAL DETAIL FOR ROCK ANCHORS WITH TOP PROTECTION
1:10



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0	ISSUED FOR TENDER	2017-11-28
Revision/	Description/Description	Date/Date

Client/client
PARKS CANADA

WESTERN AND NORTHERN REGION

Project title/Titre du projet
**PACIFIC RIM NATIONAL PARK RESERVE
VANCOUVER ISLAND, B.C.**

**WEST COAST TRAIL
LOGAN CREEK BRIDGE**

Consultant Signature Only

Designed by/Concept par
PL / SZ

Drawn by/Dessiné par
CAD

Drawing title/Titre du dessin
**SECTIONS & DETAILS
SHEET-3**

Project No./No. du
projet

Sheet/Feuille

Revision no./
La Révision
no.

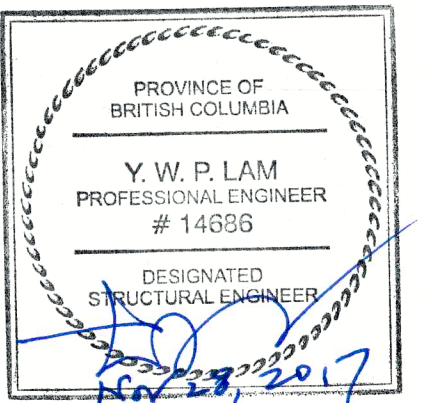
S307

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OF

12656

- NOTES:**
1. U.N.O., ALL STRUCTURAL MEMBERS INCLUDING CONNECTIONS PLATES, BOLTS, WASHERS, ETC. TO BE HOT DIPPED GALVANIZED.
 2. U.N.O., CONNECTIONS BETWEEN ALUMINUM MEMBERS TO BE DESIGNED, SUPPLIED & INSTALLED BY SUPPLIER. ALL FASTENERS FOR CONNECTION TO BE HOT DIPPED GALVANIZED STEEL.
 3. U.N.O., BRIDGE SUPPORT BUILT-UP COLUMNS, BASE PLATE ASSEMBLY FOR BUILT-UP COLUMN, BACK CABLES INCLUDING CONNECTION COMPONENTS TO BE STRUCTURAL STEEL. BRIDGE DECK CONSTRUCTION INCLUDING DECK BEAMS, PLANK, ACCESS STAIR TO BE STRUCTURAL ALUMINUM.
 4. NEOPRENE RUBBER WASHER TO BE 3mm THK MIN. (SIZE TO MATCH CONNECTION PLATE SIZE.) W/ TENSION STRENGTH OF 6.2 mPa (900 psi) MIN. & W/ MIN. MODERATE RESISTANCE TO OZONE, UV, WEATHER, WATER, OIL, GREASES, SOLVENTS AND GOOD ABRASIVE PERFORMANCE.



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0	ISSUED FOR TENDER	2017-11-28
Revision/	Description/Description	Date/Date

Client/client

PARKS CANADA

WESTERN AND NORTHERN REGION

Project title/Titre du projet

PACIFIC RIM NATIONAL PARK RESERVE
VANCOUVER ISLAND, B.C.

WEST COAST TRAIL
LOGAN CREEK BRIDGE

Consultant Signature Only

Designed by/Concept par
PL / SZ

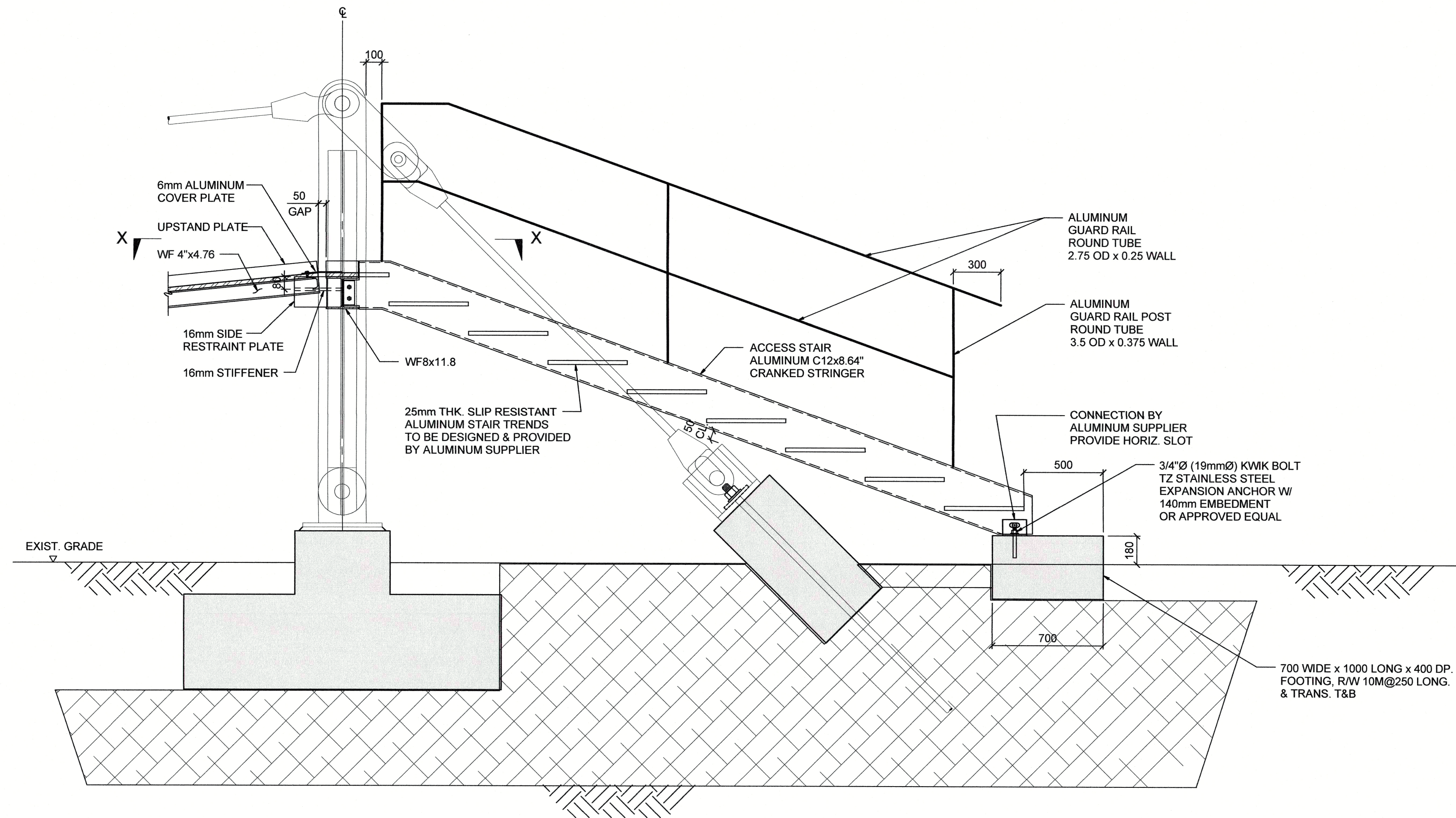
Drawn by/Dessine par
CAD

Drawing title/Titre du dessin

SECTIONS & DETAILS
SHEET-4

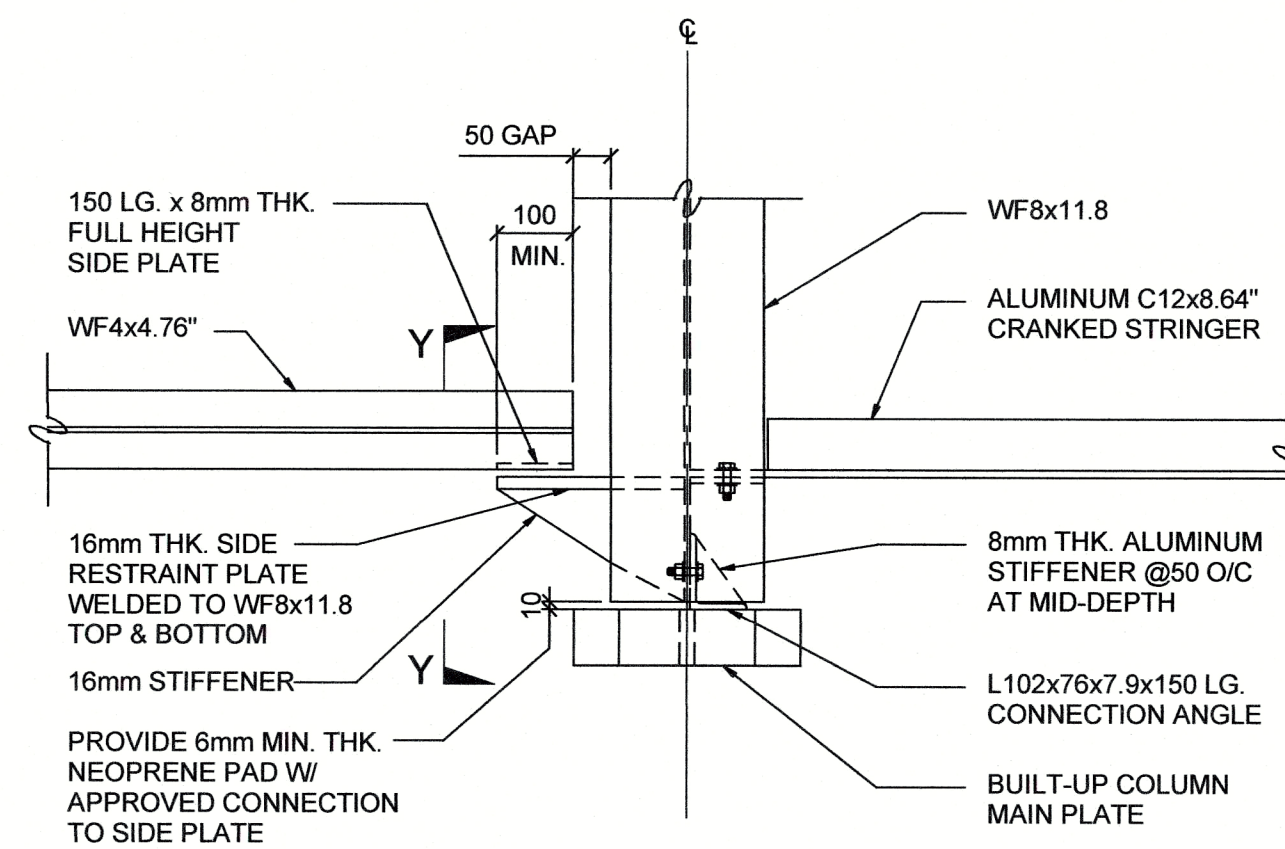
Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
	S308 OF	0

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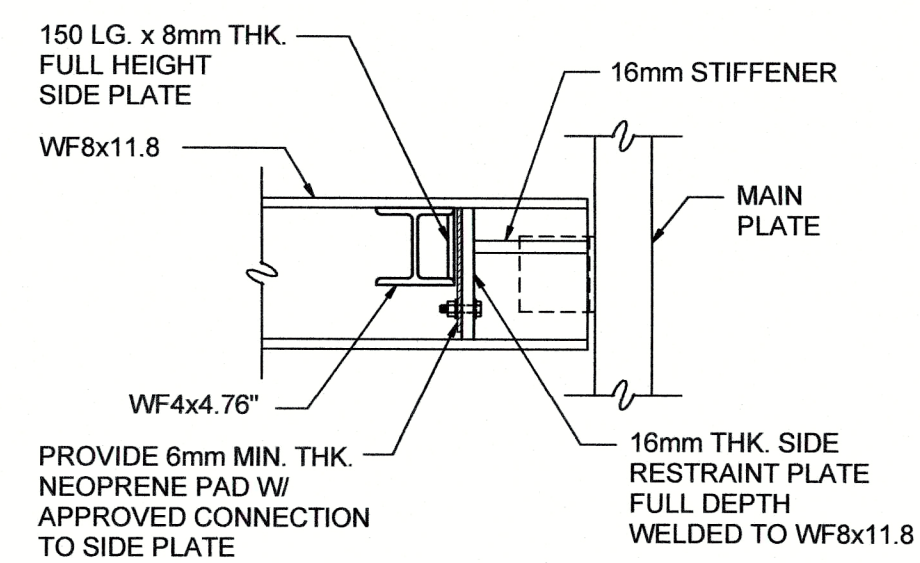


SEE DWG. S306 & S307 FOR
STEEL COLUMN, FOOTING &
CABLE INFORMATION

TYPICAL BRIDGE DECK END TO ACCESS RAMP DETAIL
1:20



SECTION X - X
1:10



SECTION Y - Y
1:10

