ADDENDUM #2

Date: May 25, 2020

PACIFIC REGION
PORT HARDY LOGISTICS DEPOT
PORT HARDY, B.C.
Project No: 8H500

The following revisions supersede the information contained in the original drawings and specification issued for the above named project, and shall become part thereof. No consideration will be allowed for extras due to the contractor or any subcontractor not being familiar with this Addendum.

1.0 SPECIFICATIONS

1.1 Section 06 20 00 Finish Carpentry
Delete:
2.1.4.1 Wood Baseboards
1 x 6 Fir or Cedar, rough finish, clear matte varnish, submit for approval by Departmental Representative.
Add:
2.1.4.1 Wood Baseboards
1" x 8" (actual) Fir or Cedar, rough finish, clear matte varnish, submit for approval by Departmental Representative.

1.2 Section 08 4113 Aluminum Framed Entrances & Storefronts
Delete:
2.2.1 Framing System
Storefront Window: non-thermally broken, centre glazed.
Add:
2.2.1 Framing System
Storefront Window: centre glazed.

1.3 Section 08 4113 Aluminum Framed Entrances & Storefronts
Delete:
2.3.1 Entrance Doors
Institutional non thermally broken single glazed. Stiles to be wide-stile. Sizes as per drawings and door schedule.
Add:
2.3.1 Entrance Doors
Stiles to be wide-stile. Sizes as per drawings and door schedule.

2.0 STRUCTURAL ADDENDUM

2.1 Refer to Structural Addendum #1 (9 pages)

3.0 MECHANICAL ADDENDUM

3.1 Refer to Mechanical Addendum #1 (1 page)

4.0 QUESTIONS

Q.1 I would like to request for **Shop drawings** of the **Ramp** and **Concrete Float** due to Amendments #3, as we required for transportation and installation of them.

A.1 See drawings "Port Hardy float drawings-2020-05-06.pdf" and "Port Hardy ramp drawings-2020-03-23.pdf" included with this addendum.

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Q.2 Drawings show the steel ramp length as over 40 meters but in addenda # 1 it is stated that the ramp is 4oft between hinges. We will require more clarity than this for the transport company. How many sections and the lengths in total please.
Will you have a crane in Sidney to load the steel ramp onto our trailer for transport to Port Hardy or must the GC supply the crane? Please clarify

A.2 See drawings "Port Hardy float drawings-2020-05-06.pdf" and "Port Hardy ramp drawings-2020-03-23.pdf" included with this addenda.
Float and ramp will be ready for pick-up on the water at the Fraser River, Annacis Island, Delta, BC. Contractor to receive steel ramp on concrete float at Annacis Island. Owner responsible for loading and securing steel ramp on concrete float. Contractor responsible for towing concrete float and steel ramp from Annacis Island to Port Hardy and installing on site.

Q.3 There are several issues with this Port Hardy Project.
1) Project design is not AWEF Compliant as of January 1, 2020
2) I'll have to quote "New Compliant" Equipment to meet NRCAN Regulations not Legacy equipment as Specified.
3) NRCAN is no longer allowing equipment designed or built to contain HFC Refrigerants over 2200 GWP in Canada.(R22/R404/R507)
4) July 10th is the deadline for Freezer equipment. NRCAN says any box designed to operate below 0*C/32*F is considered a freezer. If this is being installed before July 10 we can quote Legacy equip. but it will have to be with compliant refrigerant.(R44A/R449A)
5) The Cooler is a bit of a grey area showing an evap suction temp of 22*F which would mean that the cooler is a Freezer in the eyes of NRCAN because it will operate below 0*C / 32*F
6) NRCAN Describes Coolers as space operating above 0*C / 32*F this is right on the fringe. In this case an electric Defrost Coil should be used.

A.3 See Mechanical Addendum #1

Q.4 Please can you provide spec for concrete topping on the second floor on top of the ply sheathing?

A.4 Refer to concrete requirements as listed in specification section 03 30 00 2.2.2.2 "Slabs on Grade: 32MPa

Q.5 Please provide the existing topographical survey of the site as it is now. This is so we can work out the cut and fill to final grade.

A.5 See drawing
"Canadian Coast Guard
Proposed Jensen Cove Site
Topographic Survey Over
Lots 22 & 23, Plan VIP45348
Port Hardy, BC"
Revised Feb. 25, 2019

Q.6 *(proposed alternate lighting fixture)*

A.6 See specification section 01 61 00 1.5 for product acceptability. Alternate products may be considered after contract is awarded if they meet or exceed minimum product requirements.

ADDENDUM #2

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Q.7 Please can you provide spec for specs on all the specific specs on all the millwork construction materials(gables , sh. Bks, door profile) and finishes, for cabinets as well as the SS counters and Hardware?

See specification section 06 40 00 and Appendix H for reference. Some millwork is custom and does not have a product specification. Unspecified items shall require submittal and approval prior to installation.

Q.8 Please clarify if the live edge fir counters we would expect the name of the supplier that the architect has approved.

No supplier has been approved. Contractor shall provide shop drawings for approval for all custom millwork and casework.

Q.9 Please can you issue a performance specification for the entry floor mat in the Main Entrance Rm 101?

1”-deep aluminum track system with T-shaped blades and that meets or exceeds the related requirements listed in the Canadian Green Building Council’s LEED Indoor Air Quality standard.

Q.10 Structural Drawing S201; Foundation Plan - Control joints are indicated in the 150mm thick SOG but not to the 125mm thick SOG – Are we to assume control joints are not required in 125mm Thick SOG?

A.10 See updated control joints in Structural Addendum #1

Q.11 Civil Drawing C03 refers us to structural for details of the proposed flag pole base but nothing is shown on the structural drawings - Please provide.

A.11 See detail in Structural Addendum #1

Q.12 Request for Alternate - Spec. Section 12 21 13 – Wood Blinds - we would note that 2” wood blinds are not well suited for windows larger than 40 square feet. The stability of the wood slats cannot be guaranteed and the window height makes fully lifting and lowering the blinds next to impossible. There will be significant failures. Please ask for approval for an alternate blind type using MechoShade M5 manual roller shade / SolarVeil2300 / Fascia (Product Info attached).

A.12 Please bid as specified.

Q.13 Tender submittal - In light of the current Covid Pandemic would it be acceptable for tender submissions to be via email with hard copies being submitted before 24hrs after the bid closing?

A.13 Email submissions will not be accepted.

Q.14 Structural Drawing S203 - Can the 3 ply girder on the flat along grid line 7 be built in 2 or more pieces? as it's about 84' long otherwise?

A.14 Yes.

Q.15 Structural Drawing S203 - Can you give me more detail for the drag truss/girder trusses along gridline A?

A.15 All trusses to be detailed by truss manufacturer.

Q.16 Structural Drawing S203 - Is the drag truss meant to be continuous from gridline 4-7?

A.16 No, not as a single truss.

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Q.17 Structural Drawing S203 - Would there be separate girder trusses only over the openings to support the trusses, could those be replaced with LVL?

A.17 Girder trusses run along column line A from column line 4 to column line 7. Please bid project as designed.

Q.18 Drawing A-12; Detail 2 - Please can you confirm if the upper roof drain weir runs across the full length of the roof as indicated on the roof plan or in 1500mm long sections as shown on detail 2.

A.18 The roof rain gutter system runs the length of the roof as shown in plan. The intent of the note in Detail 2/A-12 was to indicate that the gutter "box" would be made in sections for both lateral stability and for constructability.

Q.19 Drawing A-09 Details 5 & 7 appear to show concrete & metal deck to stairwell roofs although this is not indicated anywhere else in the documents - Please clarify.

A.19 See details 4/A-12 and 5/A-12 for construction detail. Concrete & metal deck will not be used in any roof component.

Q.20 Are the walk-in fridge & freezer in Rm 123 Rack Storage by others? Other than a supply proposal from Norbec in Appendix F there is no other information?

A.20 Walk-in units in room 123 are to be supplied and installed by contractor. See Mechanical Addendum #1.

Q.21 Baseboard confliction; Specification 06 20 00; 2.1.4 calls for 1x6 baseboard, Drawing A-22; Abbreviations calls for 1x8 - Please confirm?

A.21 Baseboard shall be 1"x8" rough sawn (actual) as per A-22.

Q.22 Spec. Section 10 26 00 Wall Guards - Only one corner guard is shown on Drawing A-22 - Finish Plans & Schedule to Hallway 101 with all other corners in the same location exposed - Please confirm that this is correct?

A.22 Corner guards are shown on either side of the full-height bulletin board in room 103 to conceal the edges of the bulletin board. No other corner guards are used.

Q.23 Please will you confirm the location of the 4 No. Cedar benches as called up in Spec. Section 10 80 00; Item 2.2.2? In addition will ipe/composite cedar wood effect seats be acceptable in lieu of natural cedar?

A.23 These items are not used.

Q.24 Please will you confirm location and number of tackboards as per Spec. Section 10 11 23?

A.24 There is one tackboard in room 103 (called out as "Bulletin Board BB1") on sheet A-22 and in elevation 8/A-18.

Q.25 Drawing A-23 Antenna Armature - Does the aluminum antenna armature require any form of finishing i.e. paint finish?

A.25 No.

Q.26 Request for Alternate - Specification Section 14 21 00 – Electric Traction Elevators calls for a "Electric Traction" elevator system, albeit, there are only 2 stops. We would like to suggest the Owner consider our Holeless Above Ground HYDRAULIC Machine Room Less system – that being the thyssenkrupp "enduraMRL", per the attached Brochure. Let me know your thoughts on that please.

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A.26 Please bid as specified.

Q.27 The Glazing and curtain wall Spec's do not clearly indicate the make-up of the IGU's (Insulated Glass Units).
08 80 00: Glazing – 2.1.X – Only provides: Float glass, Safety glass, Silvered mirror glass, and wired glass.
08 44 00: Curtain wall and windows – 2.9.5 – "Exterior Glazing required to achieve U-value of 1.9
Q: What is the Make-up of the Insulated glass units? - Does the Design team have a basis of design or example of what they used to achieve this rating? I.E.- Outboard: 6mm clear tempered with Low-E on #2 surface/ ½" Airspace with Argon gas/ Inboard:6mm clear tempered with low-E on #3 surface.

A.27 Refer to Appendix H.

Q.28 *(request for product equivalency)*

A.28 See specification section 01 61 00 1.5 for product acceptability. Product acceptability will be reviewed after contract is awarded.

Q.29 *(request for)* schedules for the Hazmat Shed covering:

- the portable eye wash
- lighting
- heating assembly

A.29 There are no schedules or requirements for these items.

Q.30 *(request for ramp details)*

A.30 See A.2 above.

Q.31 *(request for information regarding)* adjustable shelving for number of shelves and load on the shelf(s) and the range (heights) for the adjustable shelves.

A.31 Refer to drawing A-20 and specification section 06 40 00. Shop drawings shall be submitted by contractor for Departmental Representative approval after contract is awarded.

Q.32 I have been requested by all the generator suppliers I have reached out to for pricing to see if there is a Generator Spec that will be supplied. There isn't one built into the specifications for the project or anything on the electrical drawings that were provided.

A.32 See specification section 26 32 13 Power Generation Diesel included with this addendum.

Q.33 *(request for one week tender due date extension)*

A.33 Any extensions will be announced on tender web page.

Q.34 The Addendum #1 Q&A - A9 States that the Ramp at IOS is 40 feet Hinge to Hinge and Weighs 200kN.
DWG GA002 shows a distance of 36.550 m from WP (Hinge centre) to the edge of float. Please confirm length and weight of the ramp supplied by DFO and the location of the Concrete float also supplied by DFO.

A.34 See A.2 above.

Q.35 1) For the 1 1/2" Piping through the building that feeds the dock, is there a preferred material? The spec states that the dock piping is to be HDPE.
2) Is Heat trace required for the float/ dock piping? The following is from the spec

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In Section 22 05 00.
2.5 Heat Trace #1 Self regulating heat trace cable c/w hard wired power connection into standard junction box (120V,6W/ft, 0.025amp/ft) on all water pipes outside of the building envelope, xcluding RWL's.
3) Will ABS pipe be acceptable on above ground DWV?

A.35 1) The material for the piping through the building that feeds the dock, and the non-potable water lines within the building are to be as per Section 22 05 00, Paragraph 2.3.4 Domestic Hot, Cold and Re-circulation Water piping (Above Ground).
2) Heat trace is NOT required for the float/ dock piping.
3) As per Section 22 05 00, Paragraph 2.3.1 Sanitary Drainage and Vent Piping Above Grade: ABS DWV pipe is acceptable on above ground DWV.

Q.36 1) Please confirm the curtainwall overall system U-Value is to be less than 1.9 Wmk? Will computer generated thermal modelling be required to confirm project specific compliance?
2) If yes to #1 the doors are currently specified in section 08 41 13 as non-thermally broken. Please confirm the exterior doors will need to be fully thermally broken to comply with the door schedule and the U-Value target / NECC.

A.36 Contractor shall supply glazing with U-values specified. Compliance shall be by prescriptive, not performative, method (no computer modeling will be required).
Glazed assemblies may be thermally broken.
See updated specification sections 08 41 13 2.2 and 08 41 13 2.3.

Q.37 Ramp supplied by DFO, as well as the dimensions,
Where at IOS is it located ? Dopes it have lifting eyes? Will the owner be locating it at the waterfront or do we need to transport it from current location to an abutment for loading onto our Barge? Will IOS permit it to be loaded from their main wharf and if so under what loading conditions? Is the ramp assembled or will the grating need attaching.

A.37 See A.2 above.

Q.38 Float
Does the owner have a towing plan for the float or is that the contractors responsibility?
Where on Annacis Island will the float be located is there access by land and how is it moored or anchored?
When drilling the anchor rods Detail 1/103 what will the approach be if there is rebar at those locations?
Will there be rub boards on the float and will they be installed by others?

A.38 The Contractor will be responsible for the towing plan and will be responsible for safely towing the float to site after receiving it from the Owner at the Pick-Up Location (shown below). Also, see A.2 above. The rub boards will be installed on the concrete float by others.

Q.39 Float Mooring Piles
Are the mooring pile sockets concrete filled? If so to what elevation?
Can we use flatbar instead of pipe on the aluminum pile anodes?

A.39 1) The anchor rods shown in Detail 1 of Drawing 103 will be cast into the concrete float so the Contractor will not be required to install these bolts.

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2) The mooring piles will not require concrete infill provided they are installed as per the specifications.
3) Flatbar may be used instead of pipe on the aluminum pile anodes, provided all other specifications are met.

Q.40 *(request for two-week extension)*

A.40 Any extensions will be announced on tender web page.

Q.41 DWG 102/pile list, Marine works shows pipe to be 508 mm x 17.1 mm, that would be more common as a 15.9 mm or a 19mm wall thickness. What would the engineer prefer.

A.41 Acceptable alternatives to the four abutment pile sizing will include:
- 15.9 mm wall thickness – 350 MPa Steel Grade
- 19 mm wall thickness – 300 MPa Steel Grade

Q.42 The chain attachment detail for the floating fenders is vague. Is there a detail of the attachment to the float rail and to and between the fenders?

A.42 Chains with HDPE protection sleeve is required around all the bull rail supports, as shown on the concrete float drawings. Chains will then be connected to the fenders on both sides.
Chain detail may vary depending on type of fender provided. Fender and chain detail will be required to be submitted for review prior to procurement.

Q.43 The unit price table item 2.6 and tender specification section 35 05 51- 1.4 indicate the Cathodic protection system is to be provided under the marine scope. Section 26 42 00 contains specifications for the Cathodic protection system which seems to contradict which division supplies the Cathodic protection. Should section 26 42 00 be covered by the marine scope of work?

A.43 Yes, Section 26 42 00 pertains to the marine scope of work.

END ADDENDUM #2

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

FISHERIES AND OCEANS CANADA
REAL PROPERTY
TECHNICAL SUPPORT DIVISION

40m LONG VEHICLE RAMP

ISSUED FOR TENDER

DRAWING LIST

DRAWING NO.	DRAWING TITLE	REVISION 1	2	3	4	5
220103–001	GENERAL ARRANGEMENT					
220103–002	ELEVATIONS IN HIGH / LOW POSITION					
220103–010	RAMP PLAN, SECTIONS AND DETAILS					
220103–011	RAMP SECTIONS AND DETAILS – SHEET 1 of 2					
220103–012	RAMP SECTIONS AND DETAILS – SHEET 2 of 2					
220103–013	RAMP ACCESSORIES – SECTIONS AND DETAILS					
220103–014	ABUTMENT APRON – PLAN, SECTIONS AND DETAILS					
220103–015	FLOAT APRON – PLAN, SECTIONS AND DETAILS					
220103–016	FLOAT AND ABUTMENT APRONS – SECTIONS AND DETAILS					
220103–017	RAMP GRATING – GENERAL ARRANGEMENT					

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: A.P.

Designed by/Concept par: A.P.

Drawn by/Dessine par: PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, TPSGC

Client/client: VJA

Drawing title/Titre du dessin

TITLE PAGE

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	000 OF	0

PWGSC – A1 – 841X594

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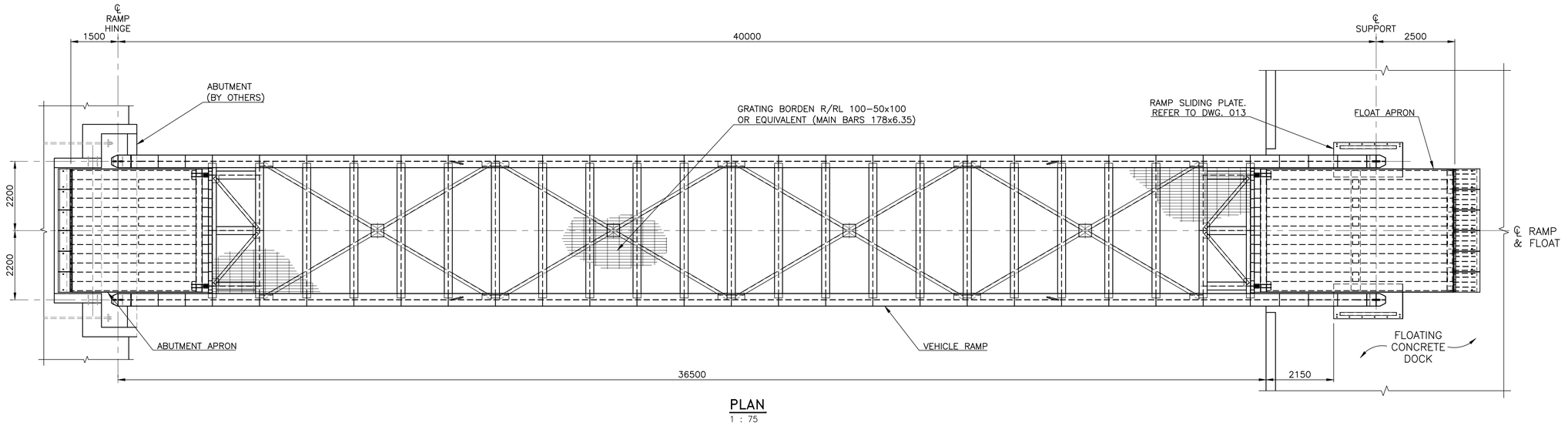
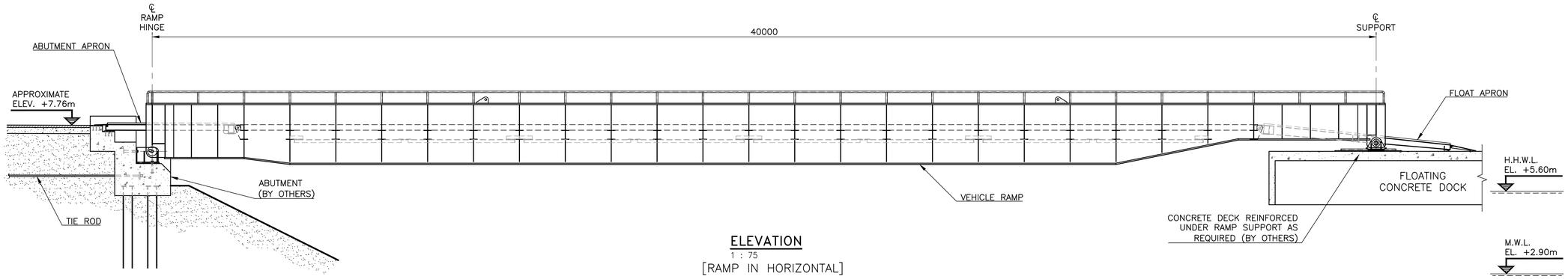
220103-000



PLAN
1 : 75



ELEVATION
1 : 75
[RAMP IN HORIZONTAL]

GENERAL NOTES:

GENERAL

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTES OTHERWISE.
2. ALL ELEVATIONS ARE IN METRES AND ARE TO HYDROGRAPHIC DATUM.

STRUCTURAL AND MISCELLANEOUS STEEL

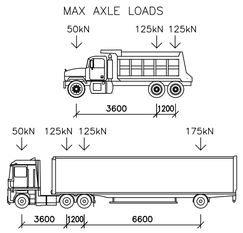
1. ALL ROLLED SECTIONS & MISCELLANEOUS PLATES TO BE GRADE 300W CONFORMING TO CAN CSA STD. G40.20/G40.21 UNLESS NOTED OTHERWISE.
2. ALL BOLTS TO CONFORM TO ASTM A325 UNLESS NOTED OTHERWISE.
3. ALL WELDING TO CONFORM TO CAN CSA STD. W47, W48 & W59. THE MINIMUM WELD SIZE TO BE 6mm.
4. FOR CORROSION PROTECTION OF STRUCTURAL & MISCELLANEOUS STEEL, SEE SPECIFICATIONS.
5. HOLLOW STRUCTURAL SECTIONS TO BE GRADE 350W, CLASS C CONFORMING TO CSA STD. G40.20/G40.21–M UNLESS NOTED OTHERWISE.

DESIGN CRITERIA:

1. LIVE LOAD ON RAMP:
   a) UNIFORMLY DISTRIBUTED LIVE LOAD = 5kPa
   b) HIGHWAY LIVE LOADING:

TRUCK CLASS CL3–625 CONFORMING TO CAN/CSA–S6–14
GVW = 30,581kg (67,360 lbs)

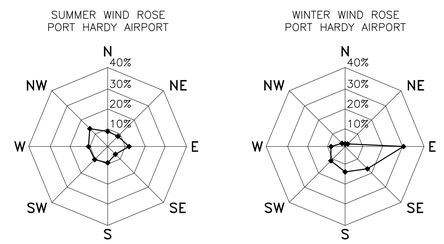
TRUCK CLASS CL2–625 CONFORMING TO CAN/CSA–S6–14
GVW = 48,420kg (106,700 lbs)



2. TIDES:

	HYDROGRAPHIC DATUM	CGVD 2013 DATUM
HIGHER HIGH WATER LEVEL (H.H.W.L.)	+5.6m	+2.84m
MEAN WATER LEVEL (M.W.L.)	+2.9m	+0.14m
LOWER LOW WATER LEVEL (L.L.W.L.)	0.0m	–2.76m

3. WIND: SPECIFIED WIND PRESSURE = 0.50kPa



4. SNOW LOAD:
   a) SPECIFIED GROUND SNOW LOAD: Ss = 0.9kPa
   a) SPECIFIED ASSOCIATED RAIN LOAD: Sr = 0.4kPa

5. SEISMIC
   PGA = 0.320
   PGV = 0.543
   Sa (0.2) = 0.70, Sa (0.5) = 0.659, Sa (1.0) = 0.447
   Sa (2.0) = 0.272, Sa (5.0) = 0.091, Sa (10.0) = 0.032

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Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: **A.P.**
Designed by/Concept par: **A.P.**
Drawn by/Dessine par: **PDM**
PWGSC Project Manager/Administrateur de Projets TPSGC
PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC
Client/client: **VJA**
Drawing title/Titre du dessin

GENERAL ARRANGEMENT

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	001 OF	0

PWGSC – A1 – 841X594

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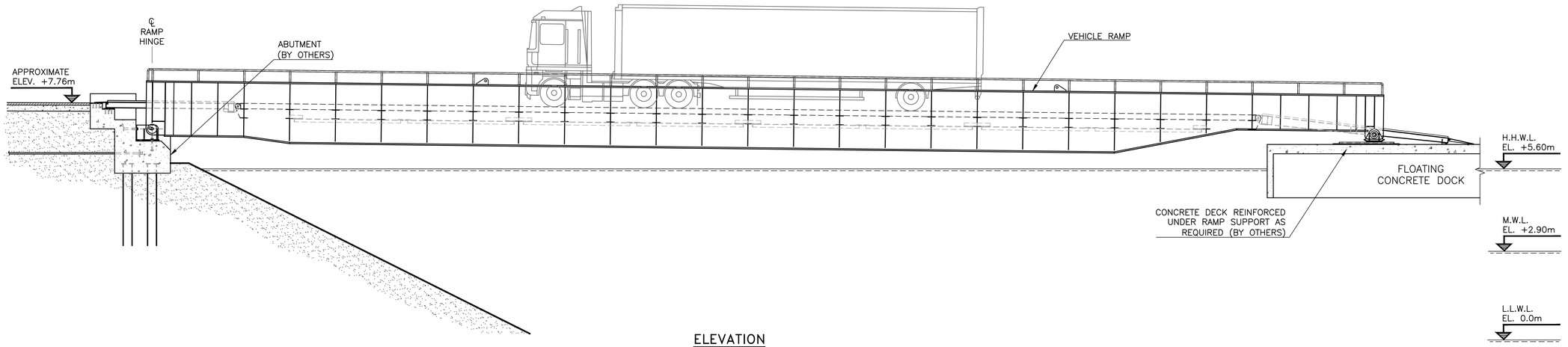
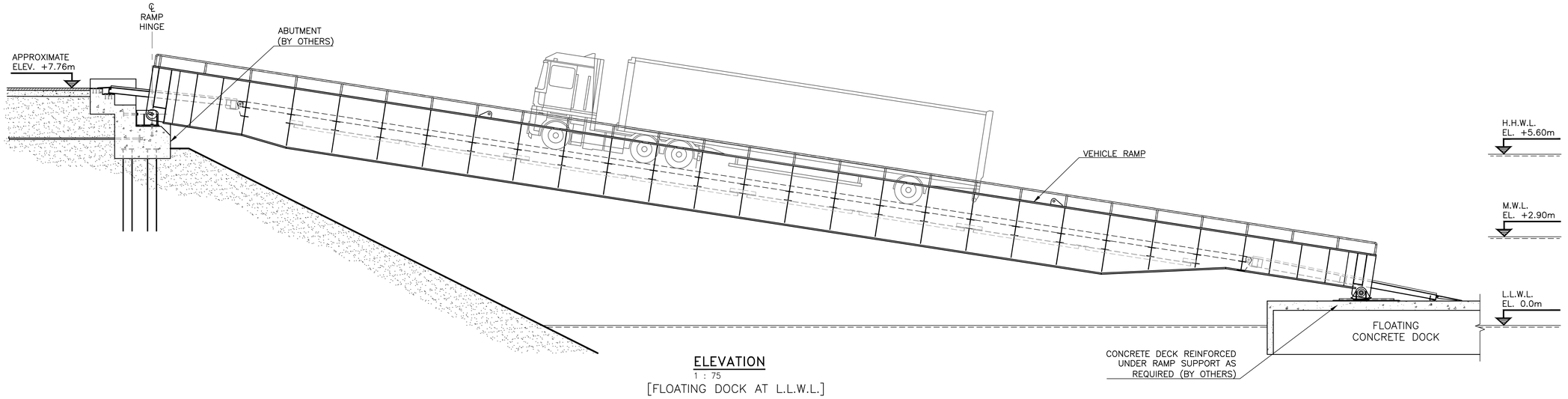
220103-001-002



ELEVATION
1 : 75
[FLOATING DOCK AT H.H.W.L.]



ELEVATION
1 : 75
[FLOATING DOCK AT L.L.W.L.]

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
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Drawn by/Dessine par
PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

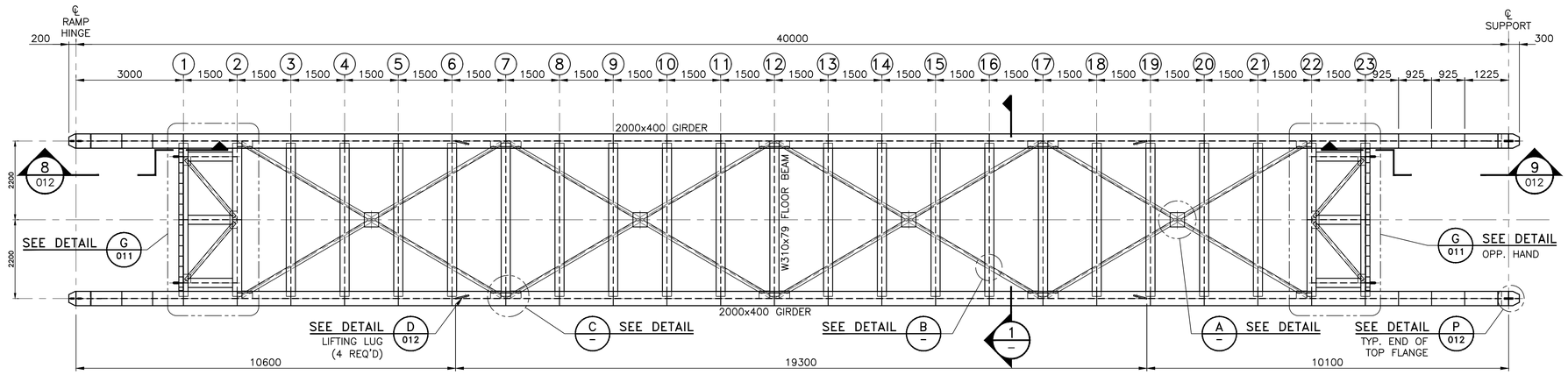
Client/client
VJA

Drawing title/Titre du dessin

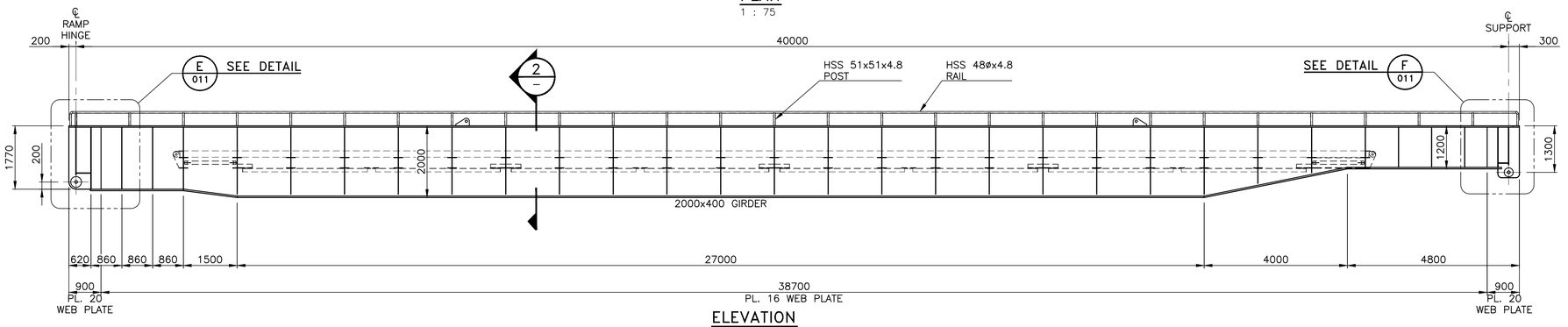
ELEVATIONS
IN HIGH / LOW POSITION

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	002 OF	0

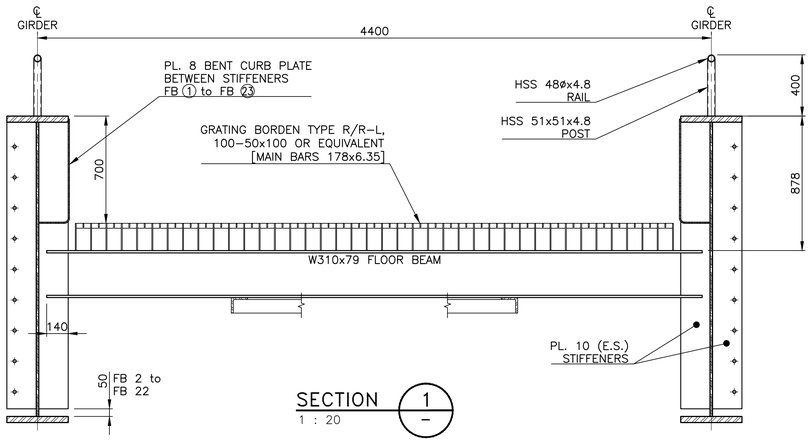
220103-001-002



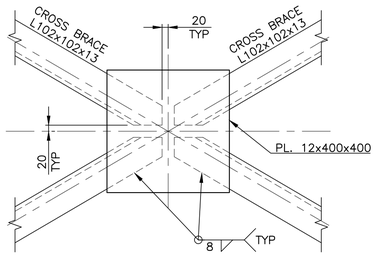
PLAN
1 : 75



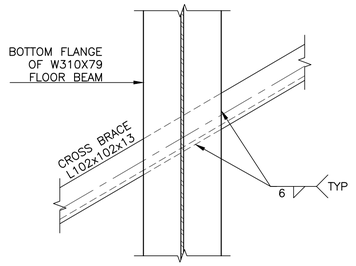
ELEVATION
1 : 75



SECTION 1 – 1 : 20



DETAIL A – 1 : 10



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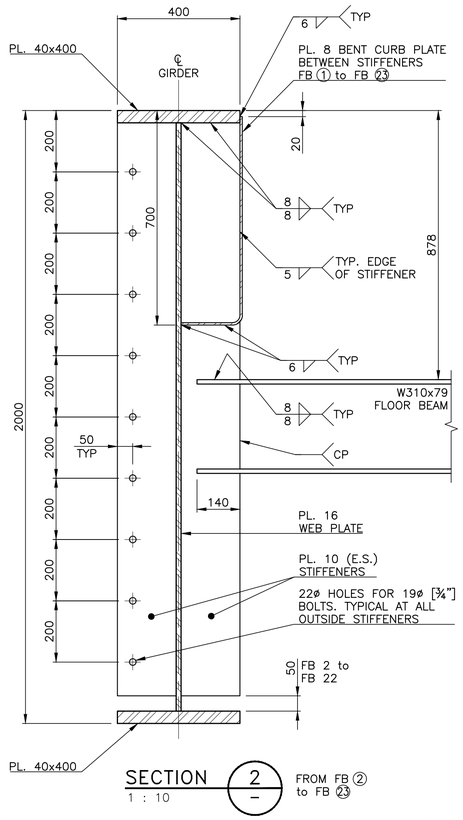
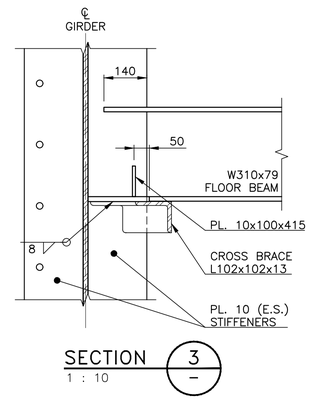


SECTION 2 – 1 : 10 FROM FB (2) to FB (23)



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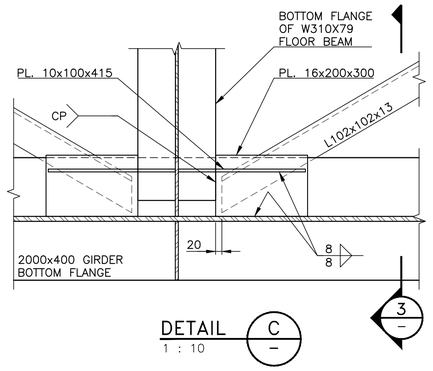


DETAIL C – 1 : 10

[CROSS BRACING AND GUARDRAIL NOT SHOWN FOR CLARITY]

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

PWGSC – A1 – 841X594

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: A.P.

Designed by/Concept par: A.P.

Drawn by/Dessine par: PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

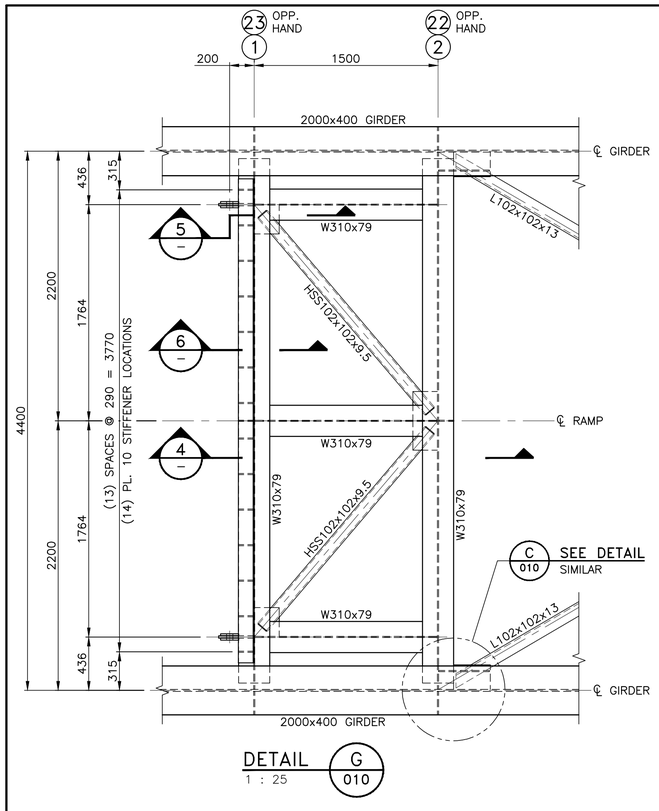
Client/client: VJA

Drawing title/Titre du dessin

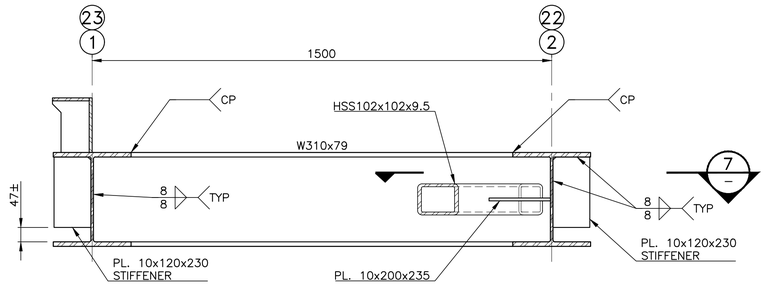
RAMP PLAN,
SECTIONS AND DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	010 OF	0

220103-010-016



DETAIL G
1 : 25
010



SECTION 4
1 : 10
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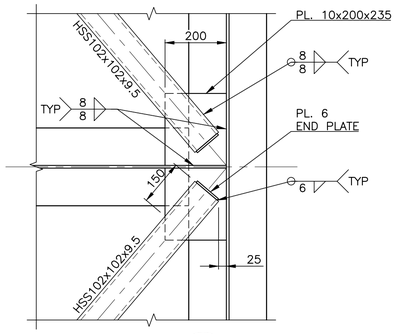

SECTION 7
1 : 10
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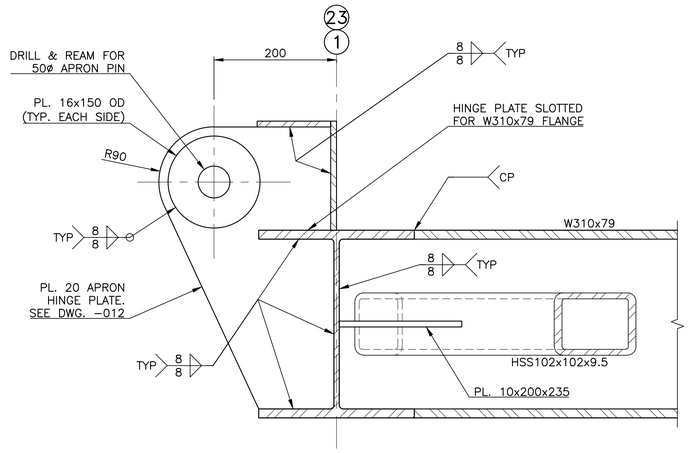

SECTION 5
1 : 5
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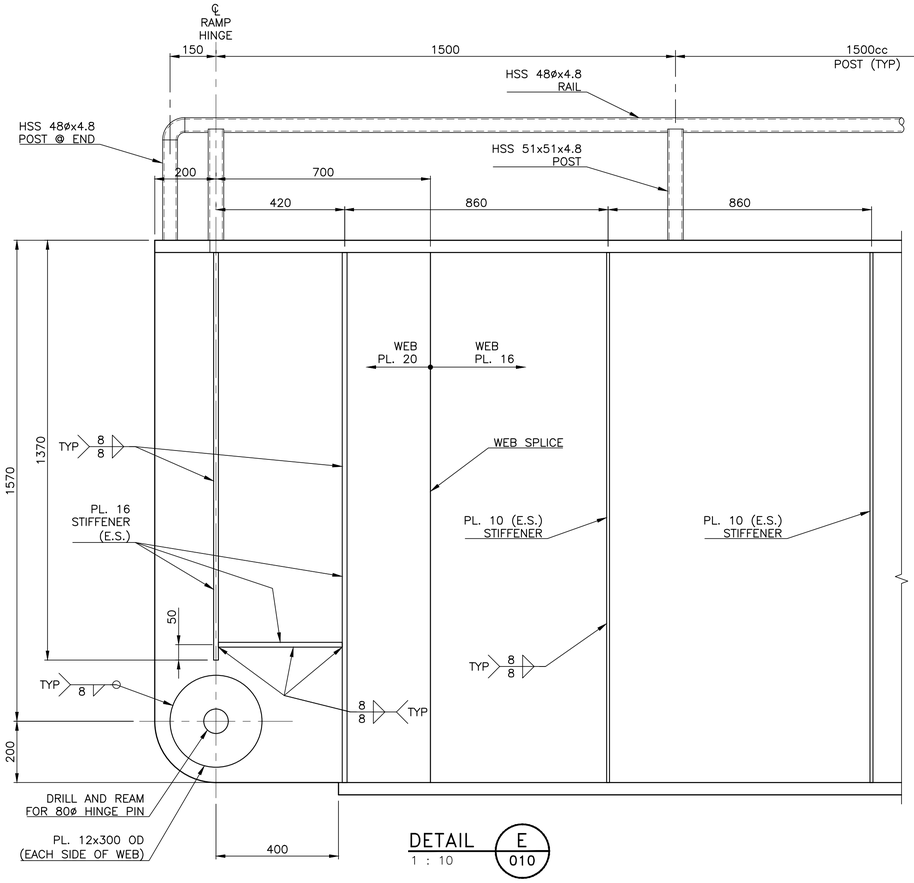
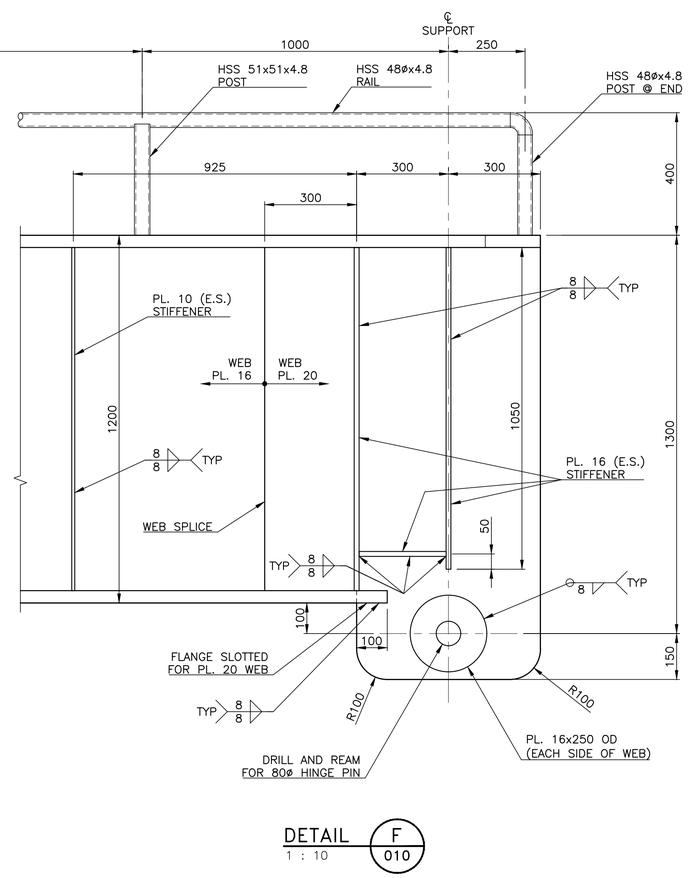
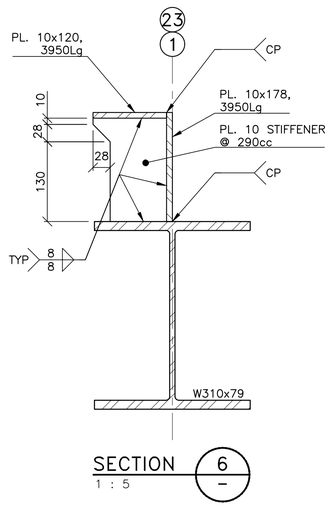


DETAIL E
1 : 10
010



DETAIL F
1 : 10
010



SECTION 6
1 : 5
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NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
A. E. PEDERSEN
14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par
A.P.

Designed by/Concept par
A.P.

Drawn by/Dessine par
PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

Client/client
VJA

Drawing title/Titre du dessin

RAMP SECTIONS AND DETAILS
SHEET 1 of 2

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	011 OF	0

PWGSC – A1 – 841X594

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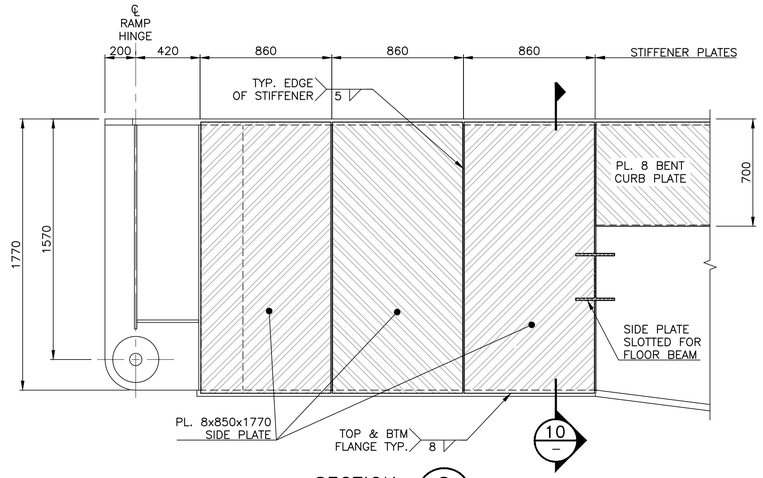
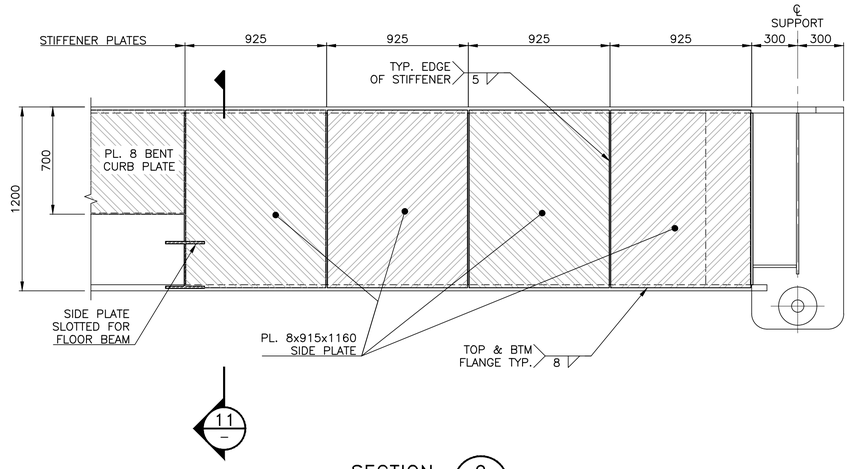
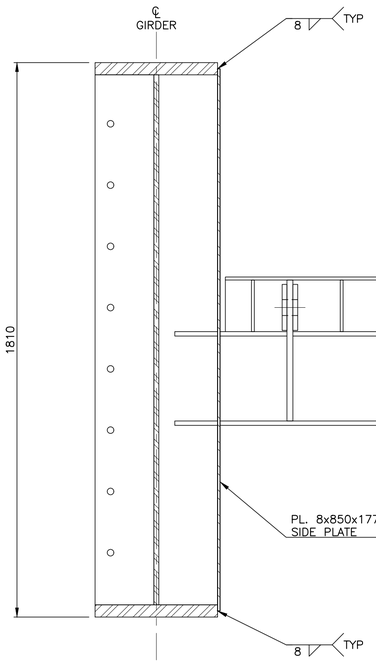
220103-010-016



SECTION 8/010
1 : 20



SECTION 9/010
1 : 20



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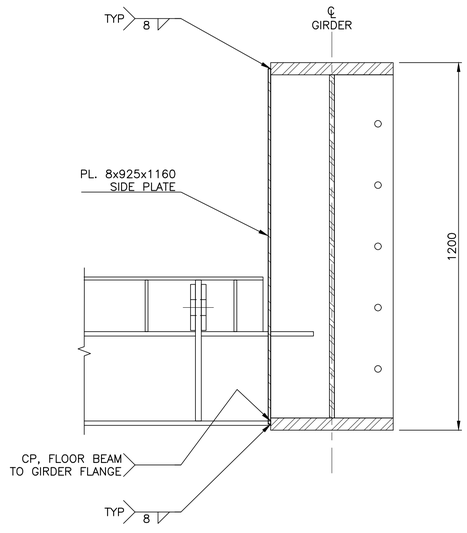
1 : 10



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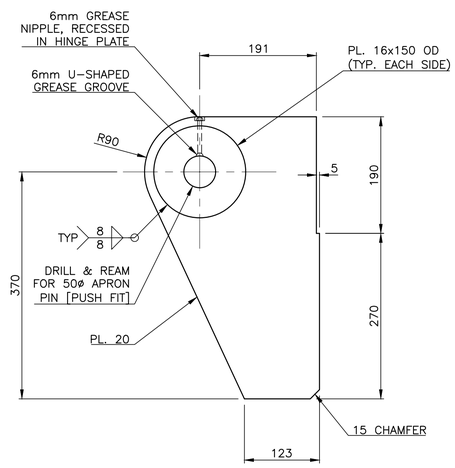
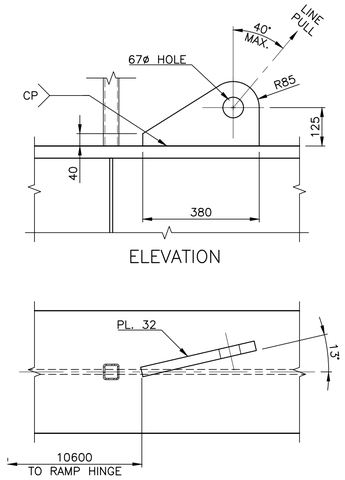
1 : 10



APRON HINGE PLATE
1 : 5
FOUR (4) REQ'D

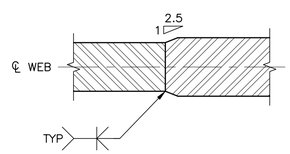


ELEVATION

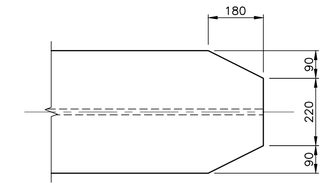
PLAN

DETAIL D/010
1 : 10

[TYPICAL LIFTING LUG – 4 REQ'D]



GIRDER WEB SPLICE
1 : 1



DETAIL P/010
1 : 10

[TYPICAL END TOP FLANGE OF GIRDER]

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: A.P.
Designed by/Concept par: A.P.
Drawn by/Dessine par: PDM
PWGSC Project Manager/Administrateur de Projets TPSGC
PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, TPSGC
Client/client: VJA

Drawing title/Titre du dessin

RAMP SECTIONS AND DETAILS
SHEET 2 of 2

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	012 OF	0

PWGSC – A1 – 841X594

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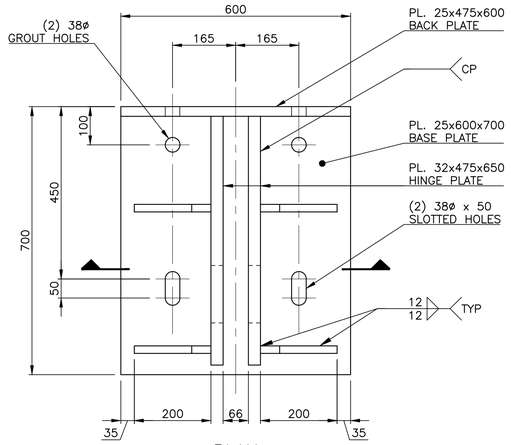
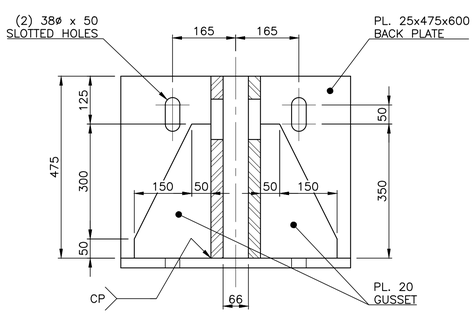
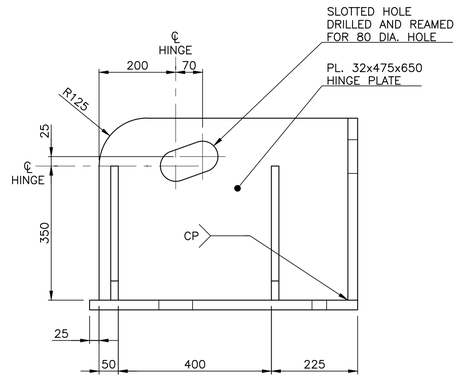
220103-010-016



PLAN

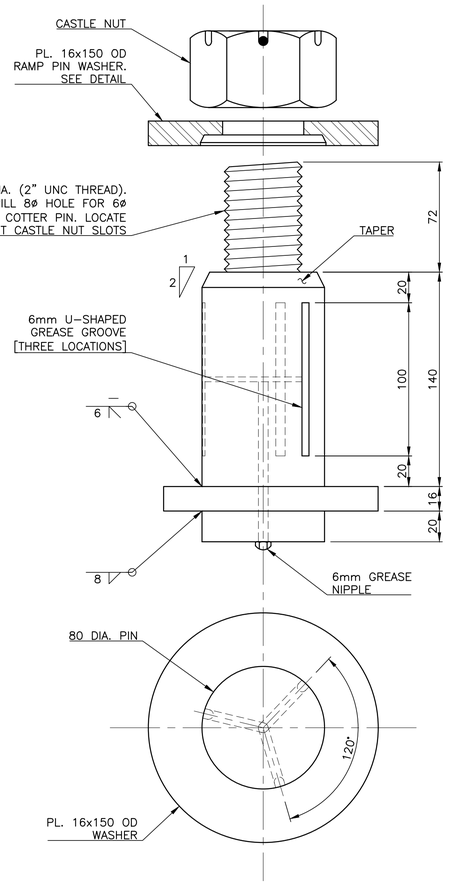


SECTION

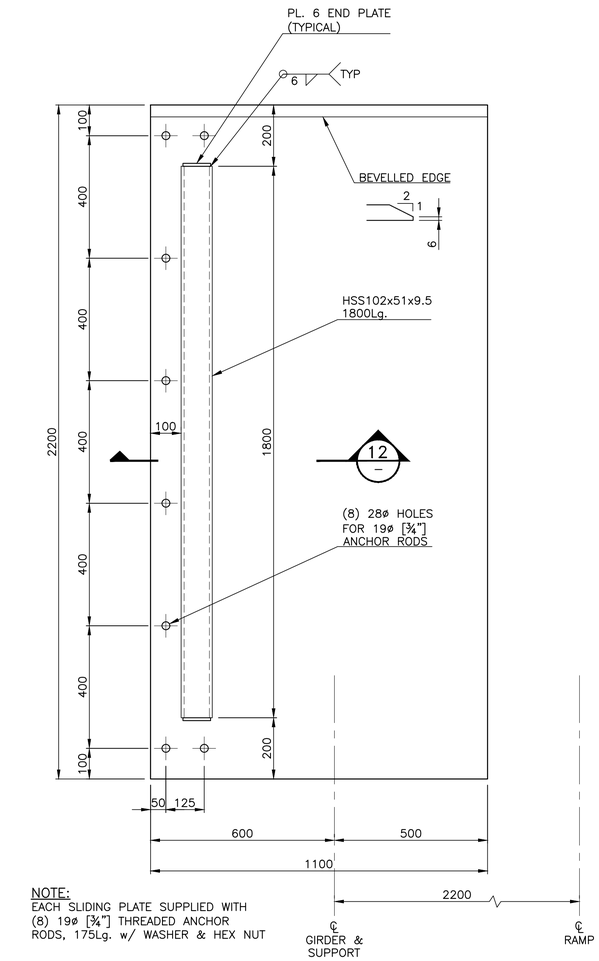


SIDE VIEW

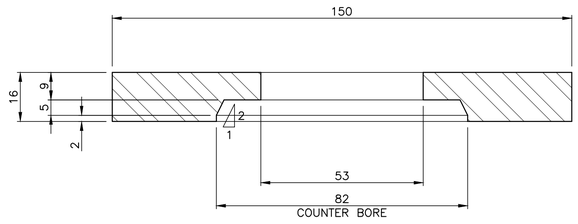
RAMP HINGE SEAT
1 : 8
TWO (2) REQ'D



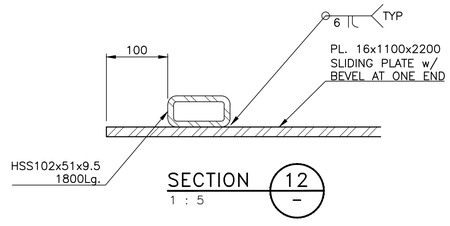
80 DIA. RAMP PIN DETAIL
1 : 2
FOUR (4) REQ'D

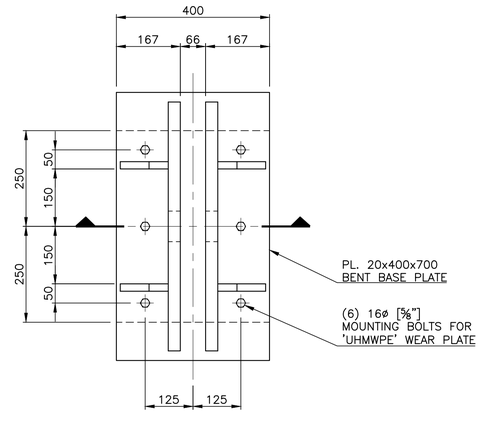


RAMP SLIDING PLATE – PLAN
1 : 10
[LEFT SIDE SLIDING PLATE SHOWN
RIGHT SIDE OPPOSITE HAND]

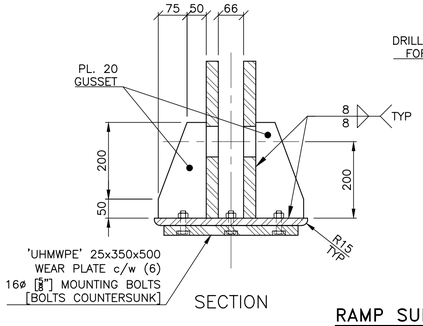


RAMP PIN WASHER
1 : 1





PLAN



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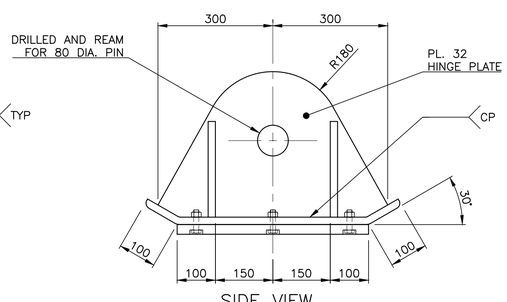

SIDE VIEW

RAMP SUPPORT SHOE
1 : 8
TWO (2) REQ'D

NOTES:
1. REFER TO DRAWING –001 FOR GENERAL NOTES.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: A.P.
Designed by/Concept par: A.P.
Drawn by/Dessine par: PDM
PWGSC Project Manager/Administrateur de Projets TPSGC
PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, TPSGC
Client/client: VJA
Drawing title/Titre du dessin

RAMP ACCESSORIES
SECTIONS AND DETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	013 OF	0

PWGSC – A1 – 841X594

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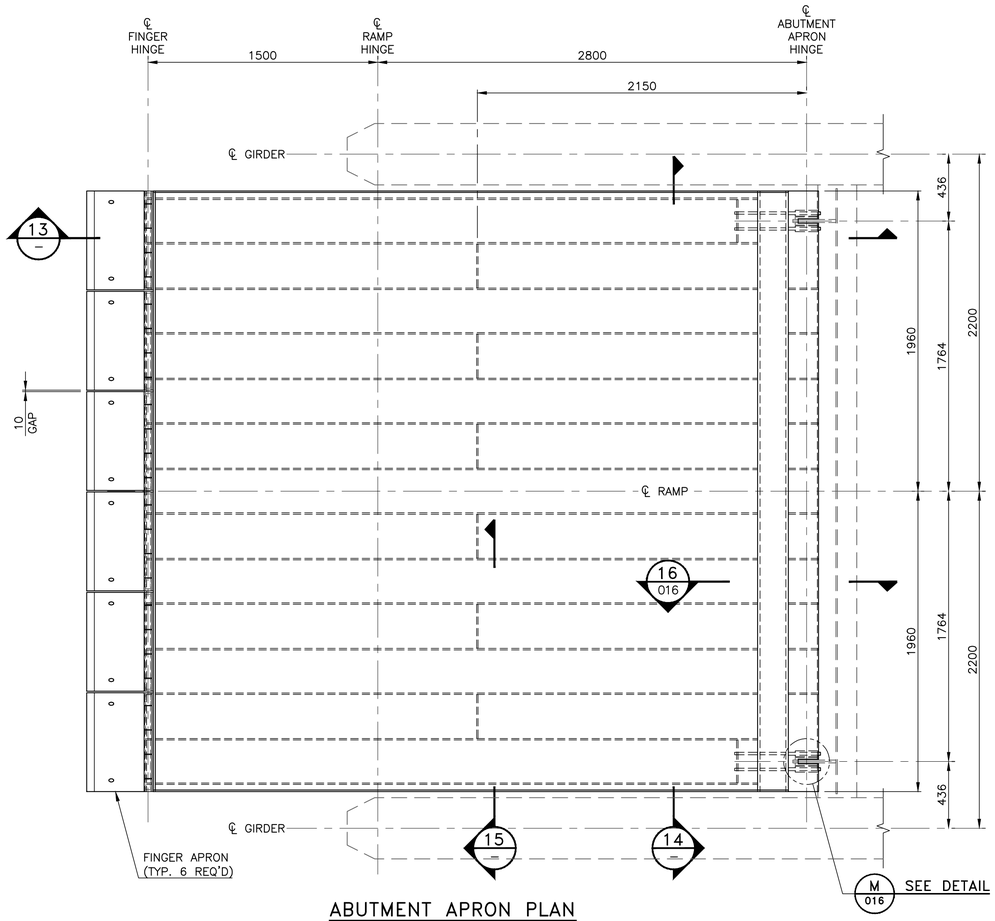
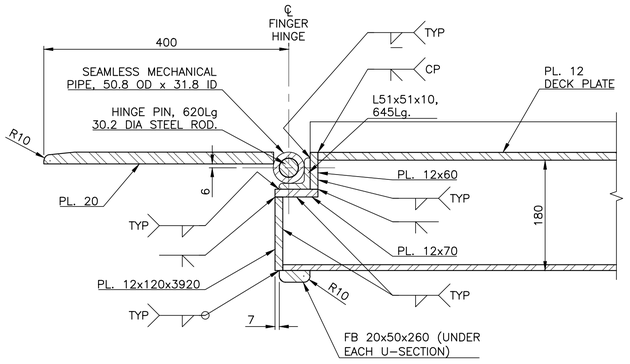
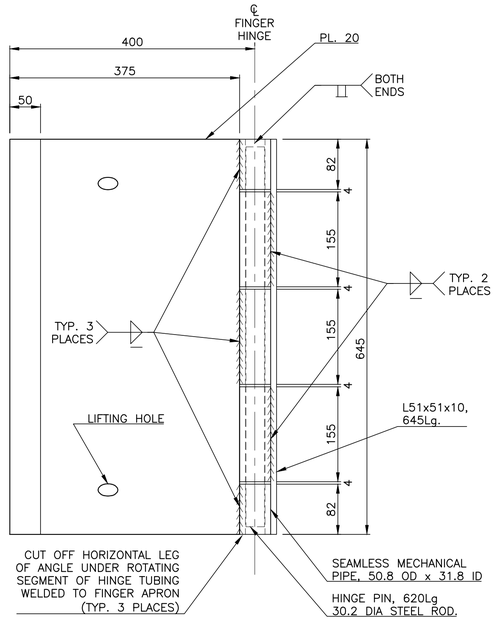
220103-010-016



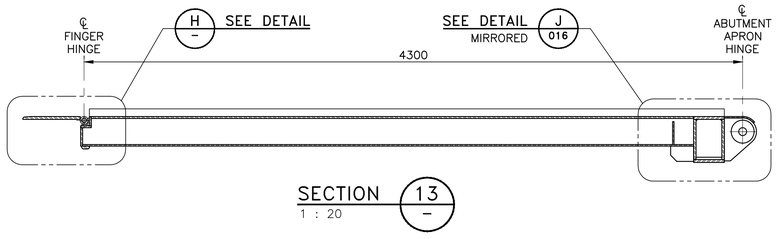
ABUTMENT APRON PLAN
1 : 20



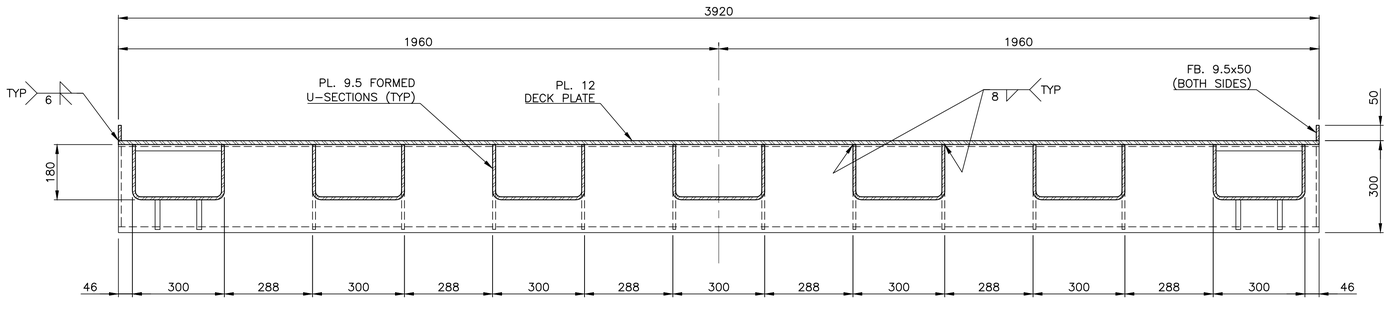
DETAIL H
1 : 5



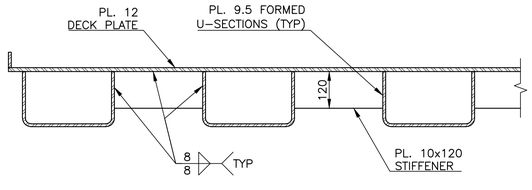
FINGER APRON DETAIL
1 : 5
SIX (6) REQ'D



SECTION 13
1 : 20



SECTION 14
1 : 10



SECTION 15
1 : 10

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

PWGSC – A1 – 841X594

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Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
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VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par
A.P.

Designed by/Concept par
A.P.

Drawn by/Dessine par
PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

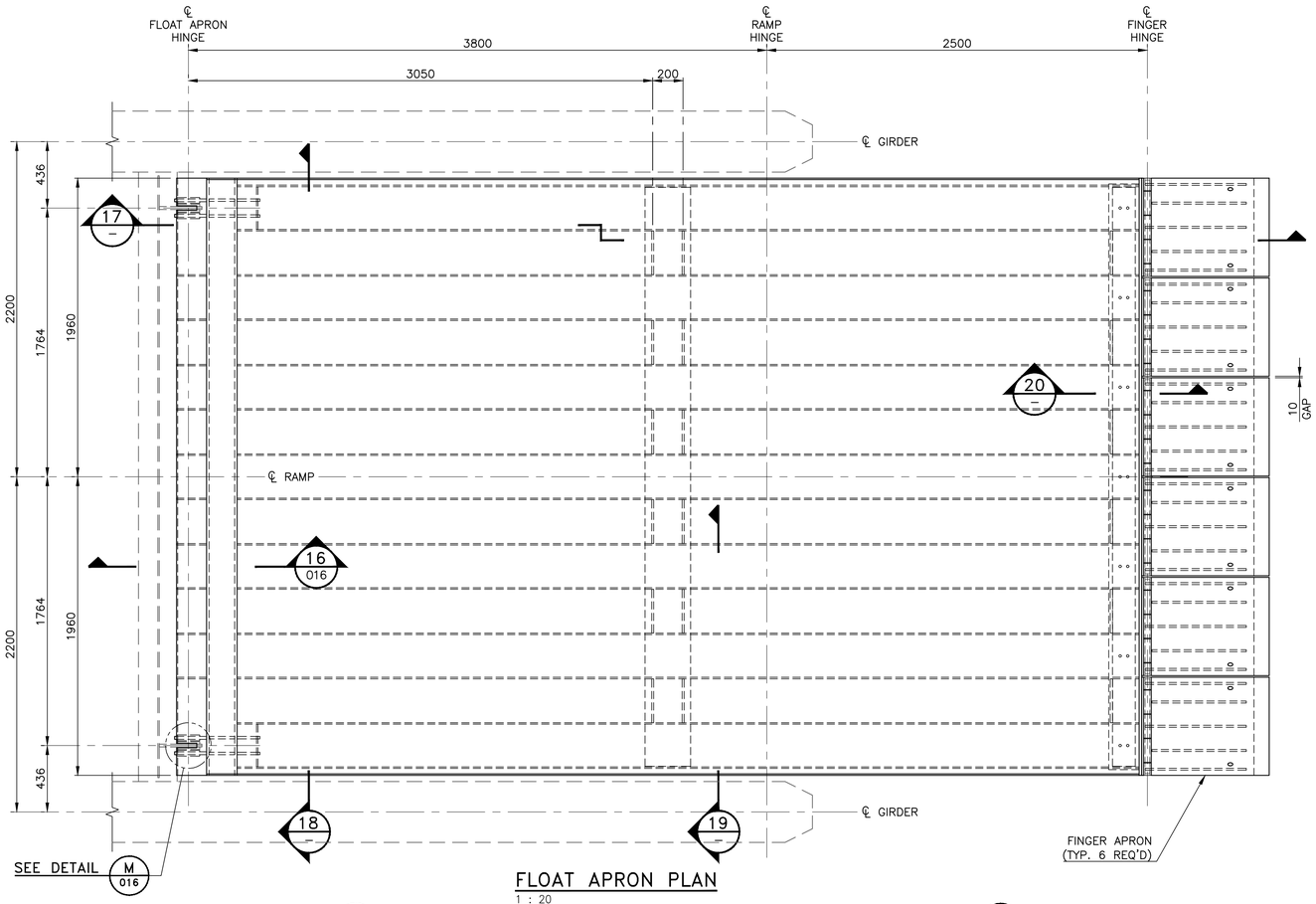
Client/client
VJA

Drawing title/Titre du dessin

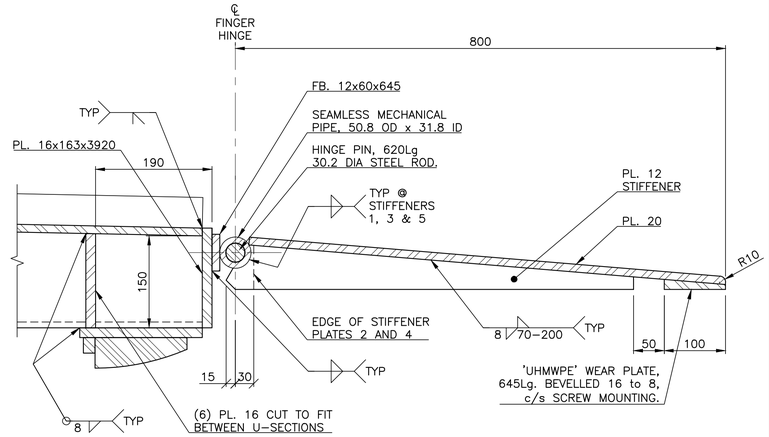
ABUTMENT APRON
PLAN, SECTIONS AND ETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	**014** OF	**0**

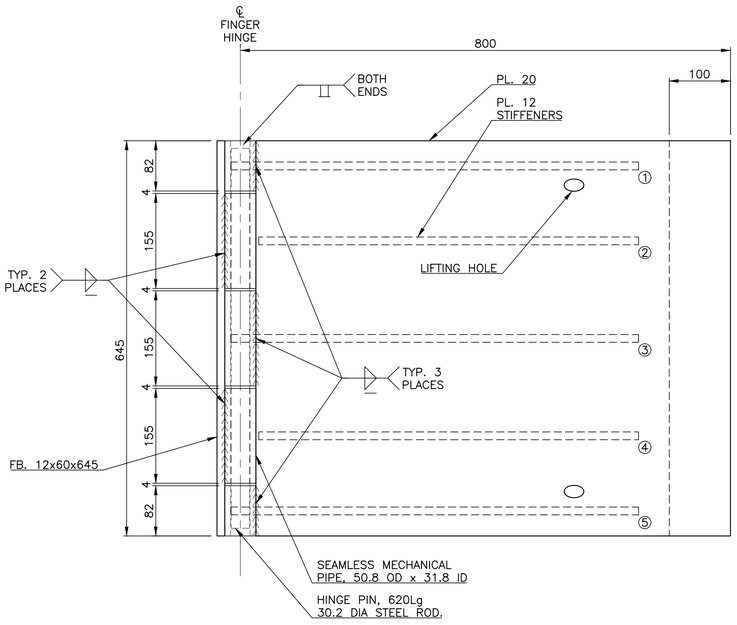
220103-010-016

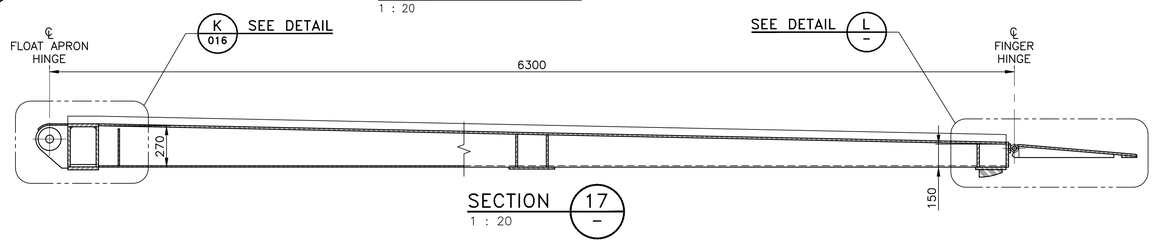


FLOAT APRON PLAN
1 : 20

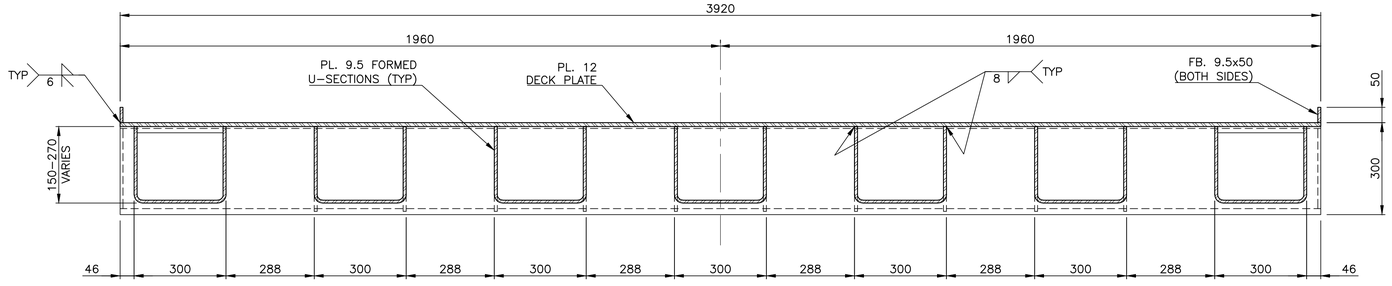


DETAIL L
1 : 5



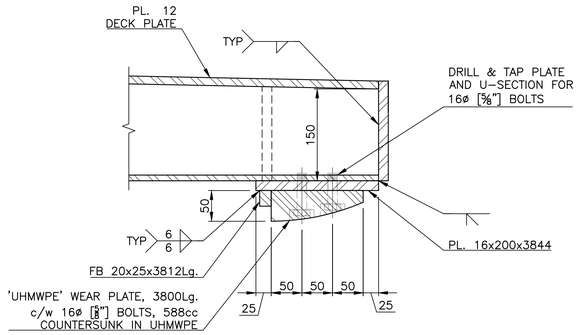


SECTION 17
1 : 20

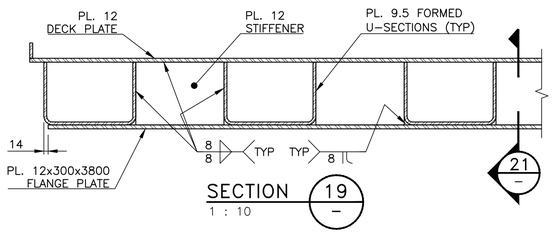


SECTION 18
1 : 10

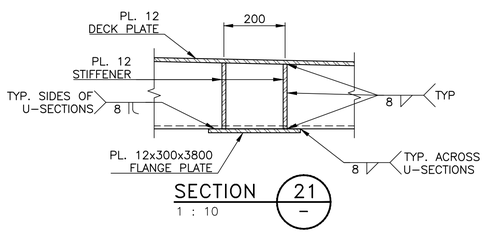
FINGER APRON DETAIL
1 : 5
SIX (6) REQ'D



SECTION 20
1 : 5



SECTION 19
1 : 10



SECTION 21
1 : 10

NOTES:
1. REFER TO DRAWING –001 FOR GENERAL NOTES.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client
Fisheries & Oceans Canada
Real Property
Technical Support Division
200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet
REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par
A.P.

Designed by/Concept par
A.P.

Drawn by/Dessine par
PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, TPSGC

Client/client
VJA

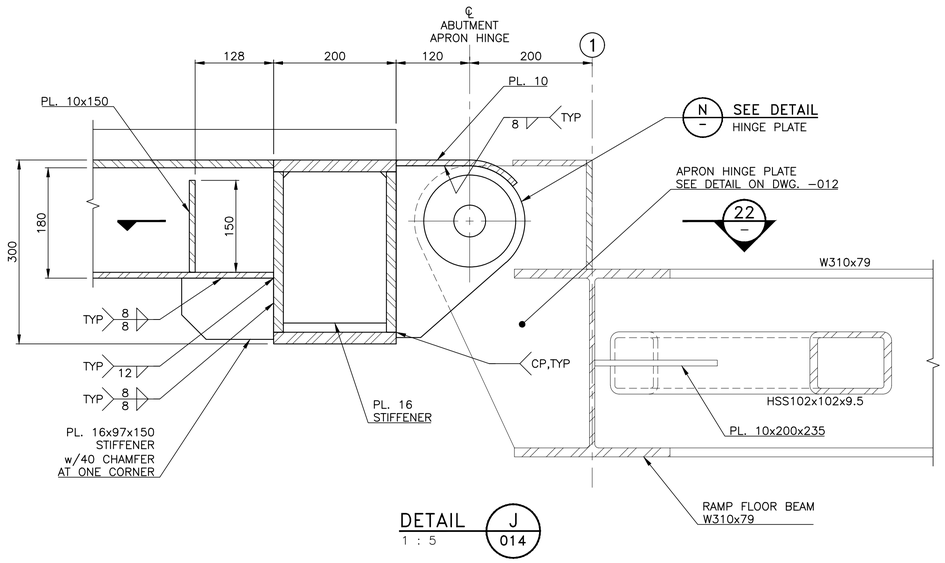
Drawing title/Titre du dessin
FLOAT APRON
PLAN, SECTIONS AND ETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	015 OF	0

PWGSC – A1 – 841X594

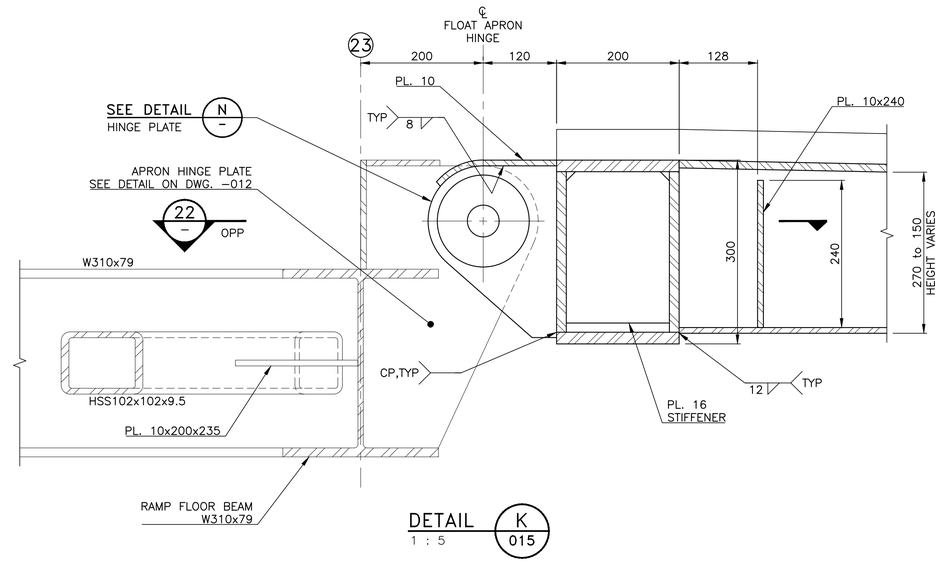
0 10 20 30 40 50 60 70 80 90 100mm

220103-010-016



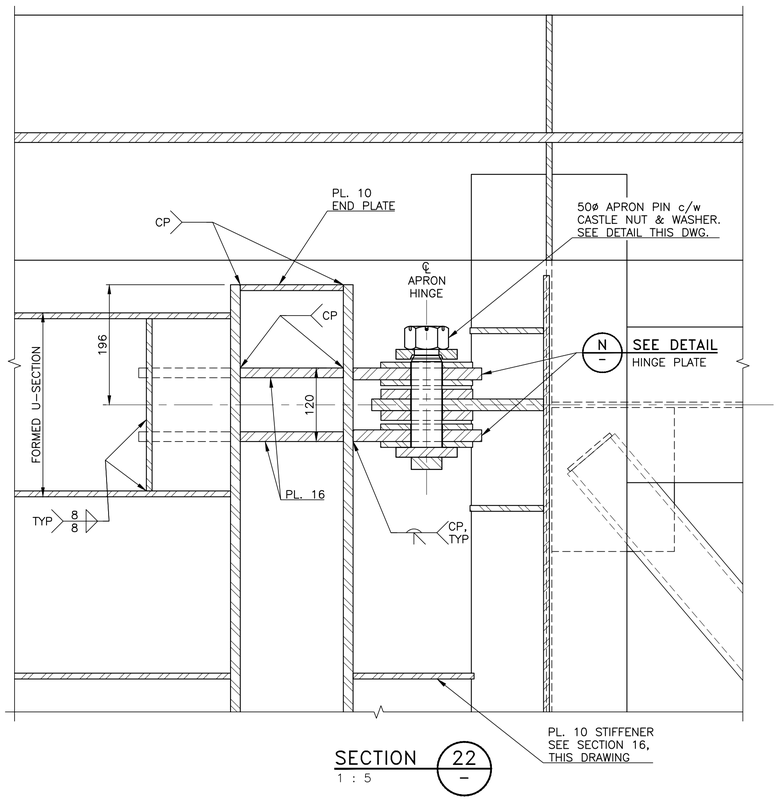
DETAIL J 014
1 : 5

[RAMP / ABUTMENT APRON ASSEMBLY]

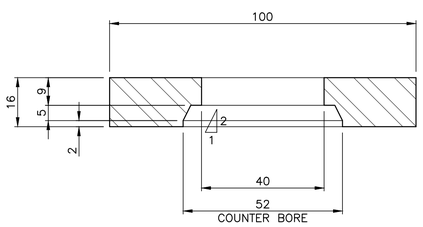


DETAIL K 015
1 : 5

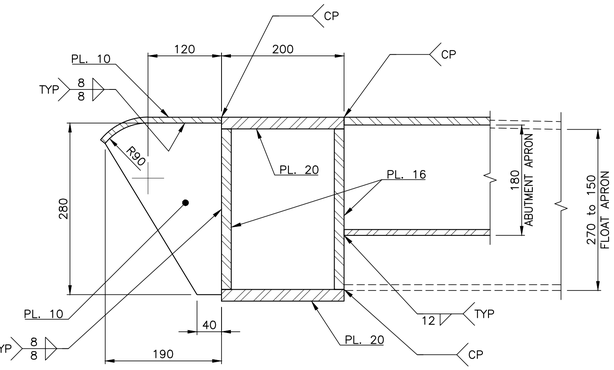
[RAMP / FLOAT APRON ASSEMBLY]



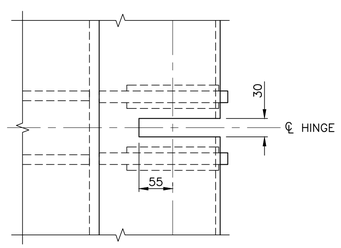
SECTION 22 –
1 : 5



APRON PIN WASHER
1 : 1

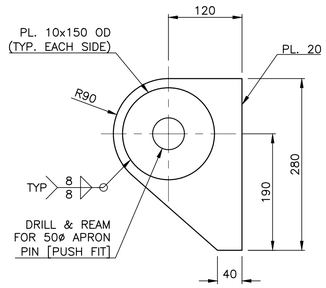


SECTION 16 014 / 16 015
1 : 5



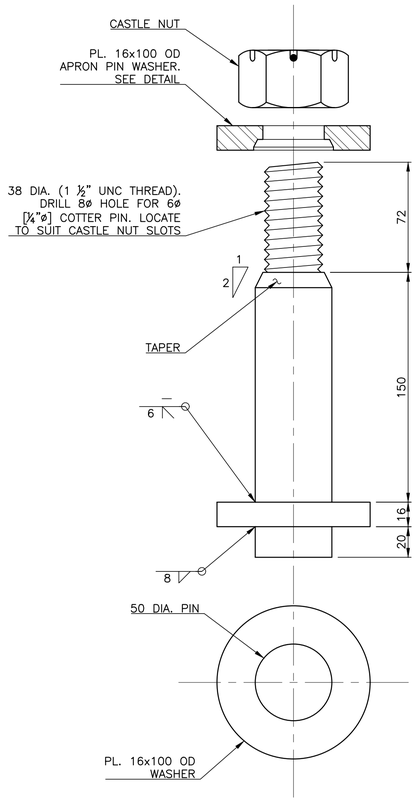
DETAIL M 014 / M 015
1 : 5

[TYPICAL HINGE CLEARANCE NOTCHES IN DECK PLATE]



DETAIL N –
1 : 5

[HINGE PLATE – 8 REQ'D]



50 DIA. APRON PIN DETAIL
1 : 2

FOUR (4) REQ'D

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

VJA ENGINEERING
VILLHOLTH JENSEN & ASSOC. LTD.
CONSULTING ENGINEERS
VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. E. PEDERSEN # 14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par: A.P.

Designed by/Concept par: A.P.

Drawn by/Dessine par: PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

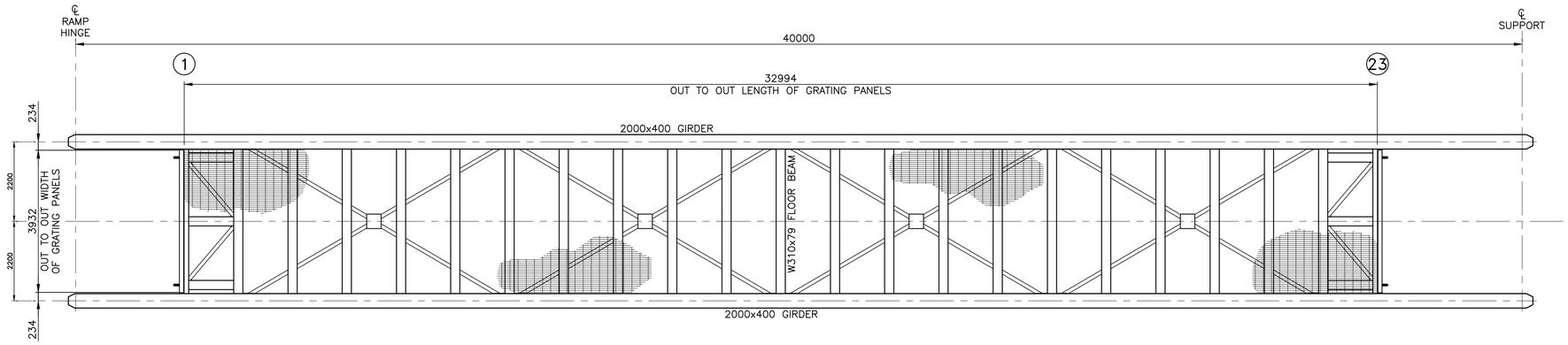
Client/client: VJA

Drawing title/Titre du dessin

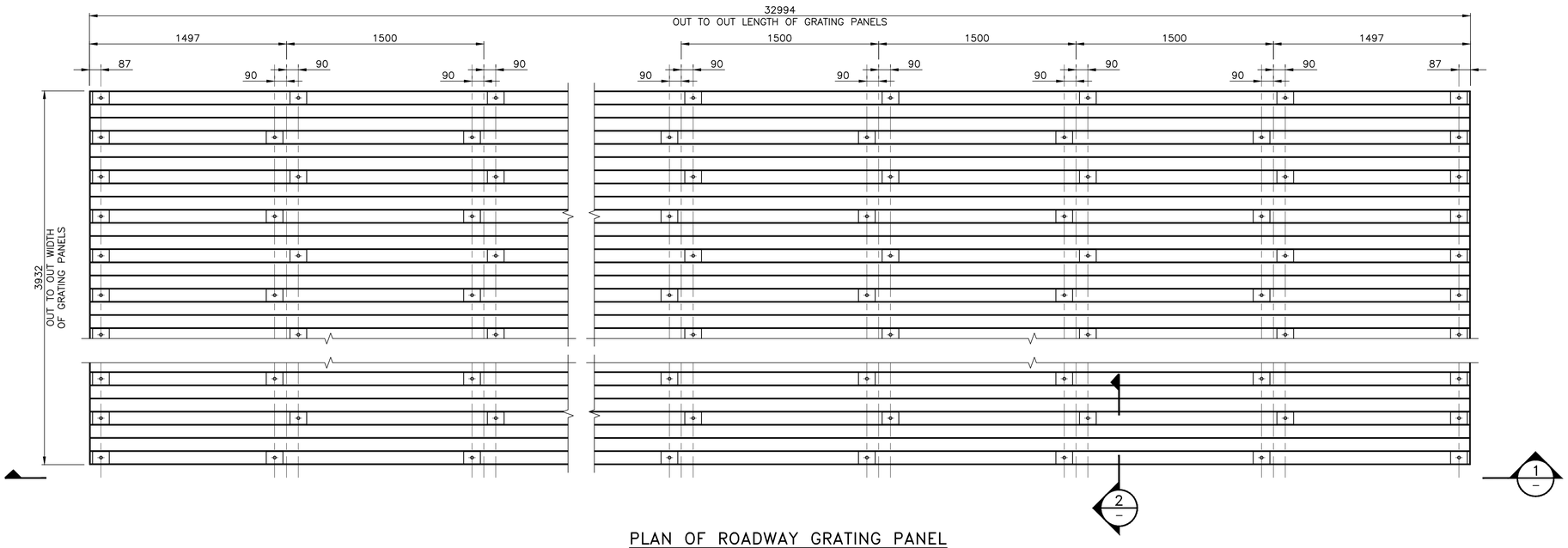
FLOAT AND ABUTMENT APRONS SECTIONS AND ETAILS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	016 OF	0

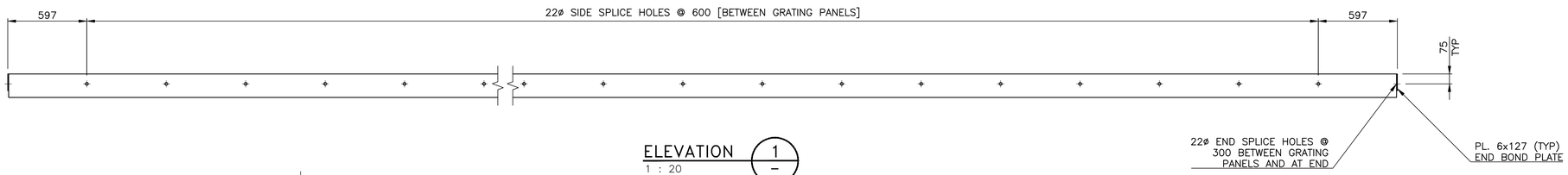
220103-010-016



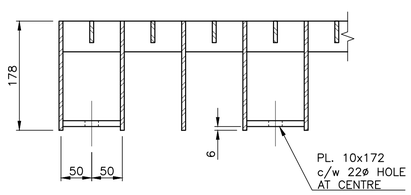
GRATING PLAN
1 : 75



PLAN OF ROADWAY GRATING PANEL
1 : 20



ELEVATION 1
1 : 20



SECTION 2
1 : 5

GRATING DESCRIPTION

ROADWAY GRATING:

- BORDEN R/RL 100-50 x 100 (OR EQUIVALENT) SERRATED, GALVANIZED, 178 X 6.35 MAIN BARS. STEEL 350W CONFORMING TO CSA G.40.21

ROADWAY GRATING HARDWARE

- BOLTS TO BE SUPPLIED WITH GRATING.
- END BOLTS: 19 DIA BOLTS c/w NUTS & WASHERS.
  SIDE BOLTS: 19 DIA BOLTS c/w NUTS & WASHERS.
  HOLD DOWN BOLTS: 19 DIA BOLTS c/w NUTS & WASHERS.
- (FLOOR BEAMS; W310x79; 14.6mm FLANGE)

NOTES:

1. REFER TO DRAWING –001 FOR GENERAL NOTES.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

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VANCOUVER, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA
A. E. PEDERSEN
14009

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR TENDER	20/03/23

Client/client

Fisheries & Oceans Canada
Real Property
Technical Support Division

200 - 401 Burrard Street
Vancouver, Canada, V6C 3S4

Project title/Titre du projet

REAL PROPERTY
40m LONG VEHICLE RAMP

Approved by/Approuve par
A.P.

Designed by/Concept par
A.P.

Drawn by/Dessine par
PDM

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'ingénierie, TPSGC

Client/client
VJA

Drawing title/Titre du dessin

RAMP GRATING
GENERAL ARRANGEMENT

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
220103	017 OF	0

PWGSC – A1 – 841X594

0 10 20 30 40 50 60 70 80 90 100mm

220103-017

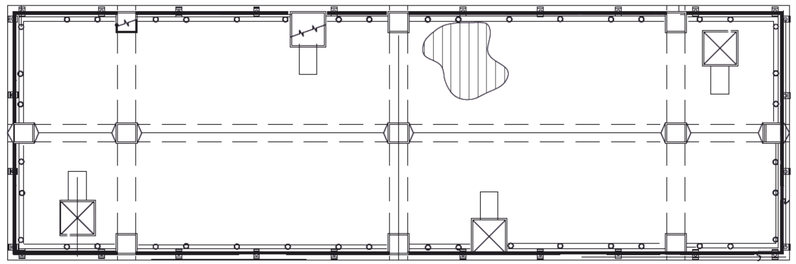
FISHERIES AND OCEANS CANADA

SMALL CRAFT HARBOURS - Standard Concrete Floating Wharves

REAL PROPERTY - SAFETY AND SECURITY

STANDARD CONCRETE FLOAT MODULE

26.22m LONG x 8.537m WIDE x 1.695 DEEP



DRAWING LIST

DRAWING NUMBER	TITLE
56134-0801-R13CONCRETE FLOAT-SHEET 1	TITLE PAGE (THIS SHEET)
56134-0801-R8-CONCRETE FLOAT-SHEET 2	CONCRETE OUTLINE, PLANS
56134-0801-R6-CONCRETE FLOAT-SHEET 3	REINFORCEMENT, FLOAT PLAN AND SECTIONS
56134-0801-R6-CONCRETE FLOAT-SHEET 5	REINFORCEMENT AT FLOAT CORNERS & WALL SECTIONS
56134-0801-R9-CONCRETE FLOAT-SHEET 6	METALWORK DETAILS
56134-0801-R5-CONCRETE FLOAT-SHEET 7	FLOTATION BILLET LAYOUTS AND HOISTING GUIDELINES
56134-0801-R5-CONCRETE FLOAT-SHEET 12	MODIFICATION DETAILS – FLOAT CORNER WITHOUT FLOAT TO FLOAT STEEL BAR CONNECTORS
56134-0801-R7-CONCRETE FLOAT-SHEET 13	QUAD TYPE II PLAN VIEW LAYOUT – CONCRETE OUTLINE, QUAD FLOAT WITH STAGGERED WELLS
56134-0801-R5-CONCRETE FLOAT-SHEET 15	LOCATION OF DRAIN HOLES & EMBEDS-STD
56134-0801-R1-CONCRETE FLOAT-SHEET 18	DUAL TYPE II – CONCRETE OUTLINE
56134-0801-0 -CONCRETE FLOAT-SHEET 31	HARTLEY BAY SEARCH AND RESCUE PONTOON
56134-0801-0 -CONCRETE FLOAT-SHEET 32	HARTLEY BAY BREAKWATER PONTOON
56134-0801-0 -CONCRETE FLOAT-SHEET 33	HARTLEY BAY DETAILS
56134-0801-0 -CONCRETE FLOAT-SHEET 34	HARTLEY BAY DETAILS
56134-0801-0 -CONCRETE FLOAT-SHEET 35	STANDARD QUAD – MODIFIED FOR PORT HARDY – PONTOON DOCK 1
56134-0801-0 -CONCRETE FLOAT-SHEET 36	MODIFIED QUAD – PORT HARDY – PONTOON 1

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

Fisheries & Oceans Canada
Real Properties, Safety and Security

TETRA TECH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G.J. GAWDIN 11614 2020-05-06

1	ISSUED FOR CONSTRUCTION	2020-05-06
0	ISSUED FOR CONSTRUCTION	2019-08-21
revisions		date

A detail no. / no. du detail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

project / projet

FISHERIES AND OCEANS CANADA REAL PROPERTY, SAFETY AND SECURITY CONCRETE FLOAT DOCK

drawing / dessin

PLAN of Standard Float

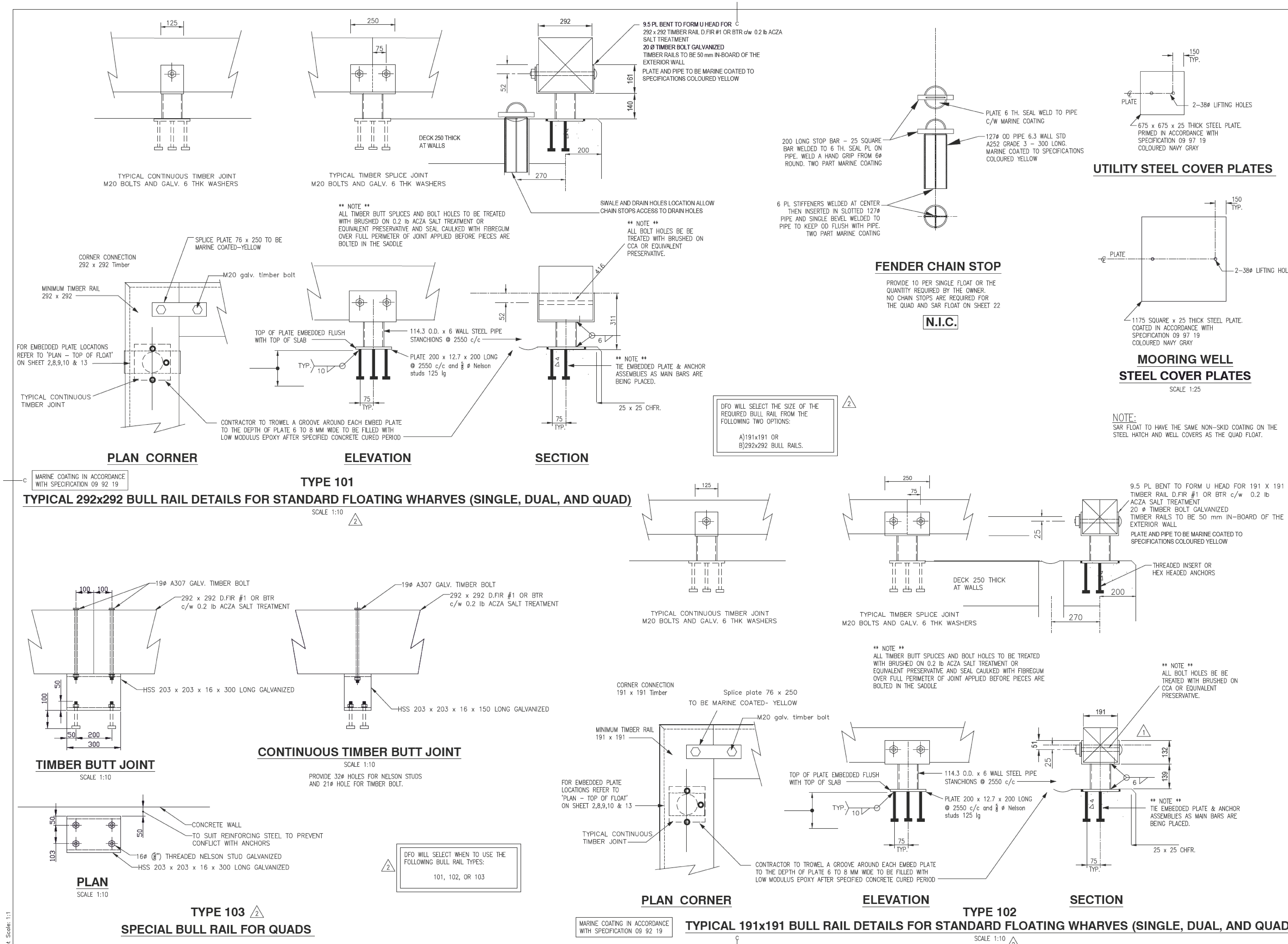
designed G.J. Gawdin — concu
date 2019-03-27
drawn PS — dessine
date 2019-03-27
approved — approuve
date
Tender — Soumission
PWGSC Project Manager — Administrateur de projets TPSGC
project number / no. du projet

TRNVHWY03002-13

drawing no. / no. du dessin

56134 - 0801 - R13 - CONCRETE FLOAT - SHEET 1

Plot Scale: 1:1
PWGSC B1
0 10 20mm 40 60 80 100 120 140 160 180 200mm



Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

Fisheries & Oceans Canada / Real Properties, Safety and Security

TETRA TECH

	revisions	date
2	ISSUED FOR CONSTRUCTION	2020-05-06
1	ADDED BRACKET DIMENSIONS	2019-11-18
0	ISSUED FOR CONSTRUCTION	2019-08-21

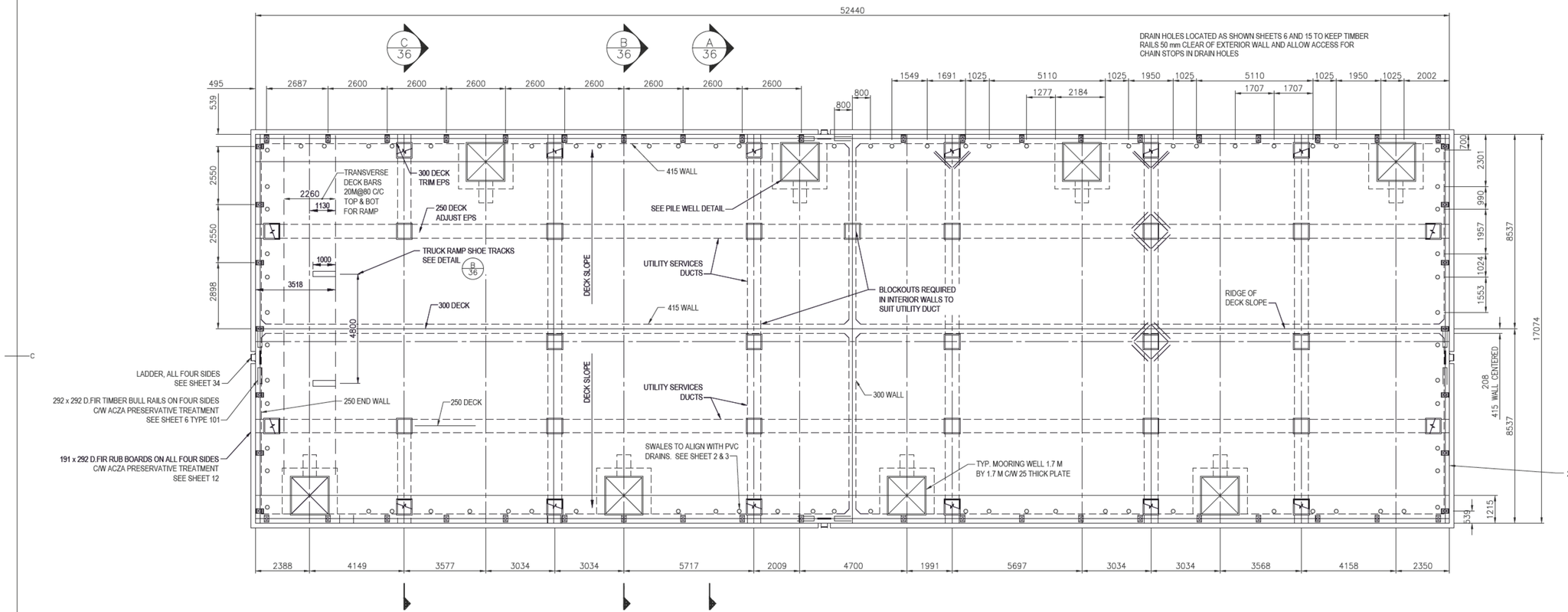
A detail no. / no. du detail
B location drawing no. / sur dessin no.
C drawing no. / dessin no.

project / projet
FISHERIES AND OCEANS CANADA REAL PROPERTY , SAFETY AND SECURITY STANDARD CONCRETE FLOATS

drawing / dessin
DETAILS

designed / conçu: GJG — date 2019-03-27
drawn / dessiné: EB — date 2019-03-27
approved / approuvé
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet: **TRNVHWY03002-13**
drawing no. / no. du dessin: **56134 - 0801 - R9 - CONCRETE FLOAT - SHEET 6**

Plot Scale: 1:1
PWGSC B1



NOTE:

SEE SHEET 36 FOR DETAILS

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

Fisheries & Oceans Canada
Real Properties, Safety and Security

TETRA TECH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GREGORY JOHN JOHNSON 11614 2020-05-06

0	ISSUED FOR CONSTRUCTION	2020-05-07
revisions		date

A detail no. no. du detail
B location drawing no. sur dessin no.
C drawing no. dessin no.

project / projet

FISHERIES AND OCEANS CANADA
CANADIAN COAST GUARD
SEARCH AND RESCUE

drawing / dessin

STANDARD QUAD MODIFIED FOR PORT HARDY PONTOON DOCK

designed GJG / concu
date 2020-05-06
drawn EB / dessine
date 2020-05-06
approved / approuve
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet

TRNVHWY03179-02

drawing no. / no. du dessin

56134 - 0801 - PH - SHEET 35

Plot Scale: 1:1
PWGSC B1
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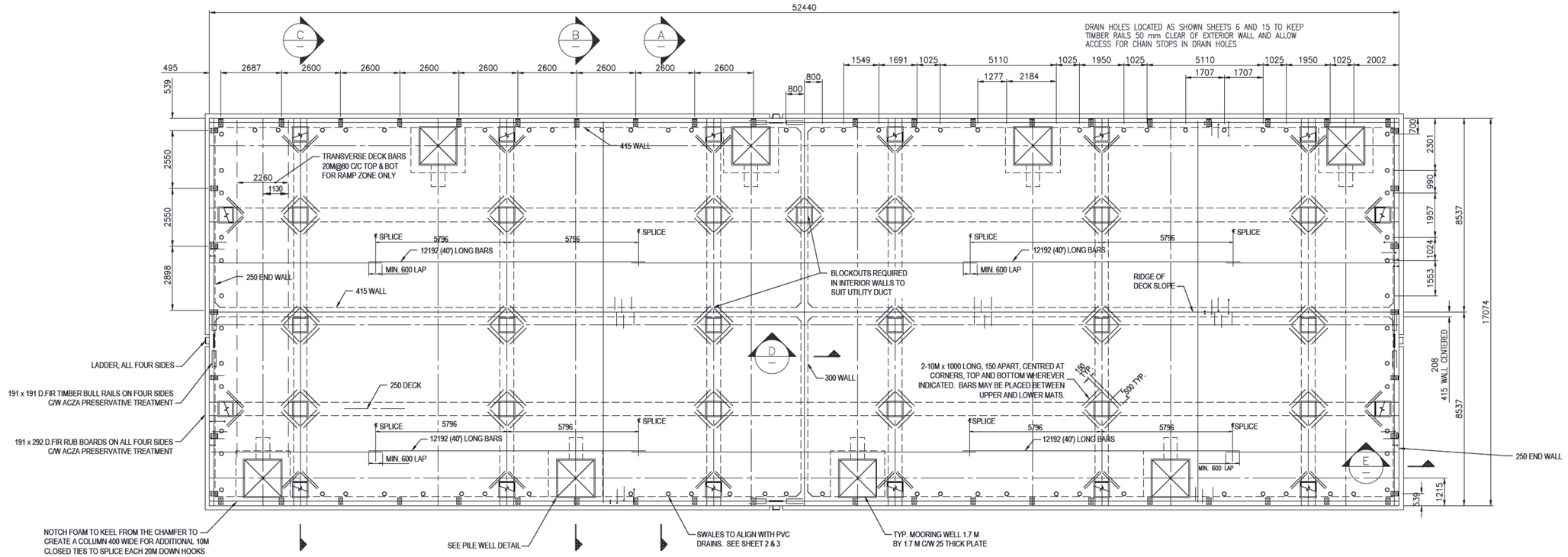
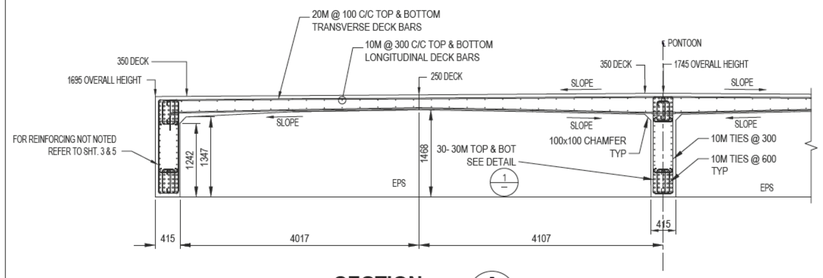
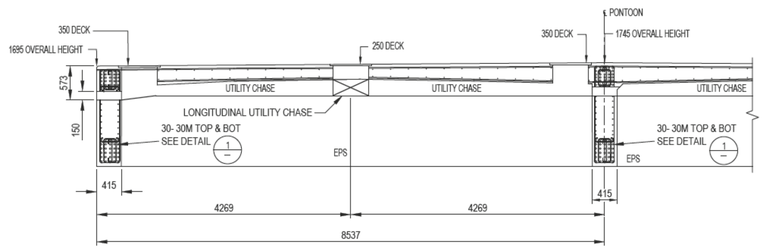


NOTES :

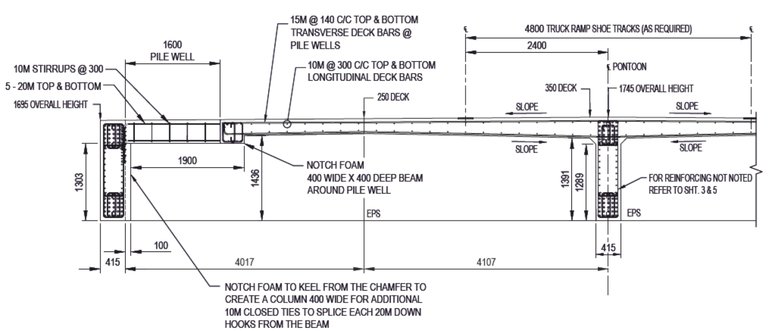
1. FOAM BONDING TO APPLY ADEHESIVE TO BOTTOM 300 ZONE OF EACH BILLET WITH BAKOR 231 RUBBER ADHESIVE BY PLANING OR TRIMMING JUST SUFFICIENTLY TO MAKE CONTACT WITH THE BAKOR ADHESIVE, GLOBBING IS PERMITTED IN SOME LOW AREAS. THE UPPER ZONE OF EPS ABOVE 300 FROM KEEL MAY BE BONDED WITH LOW EXPANSION POLYURETHANE FOAM OR BAKOR 231.



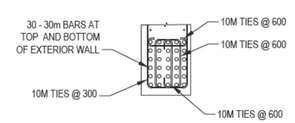
SECTION A
SCALE 1:75



SECTION C
SCALE 1:50

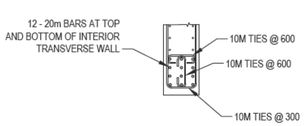


SECTION B
SCALE 1:50

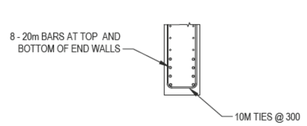


DETAIL 1
SCALE 1:25 — LONGITUDINAL WALLS

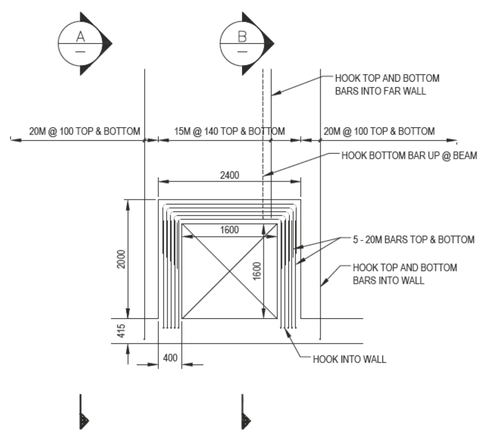
NOTE:
FOR REINFORCING NOT NOTED REFER TO SHT. 3 & 5



SECTION D
SCALE 1:25 — TRANSVERSE WALL



SECTION E
SCALE 1:25 — END WALLS



TYPICAL PILE WELL DETAIL
SCALE 1:50 — 1600x1600 WELL

C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

Plot Scale: 1:1

PWGSC B1

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

Fisheries & Oceans Canada
Real Properties, Safety and Security

TETRA TECH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GARY JOHN GJOVIN LICENCE 11614 2020-05-07

revisions		date
0	ISSUED FOR CONSTRUCTION	2020-05-07

A detail no. no. du detail
B location drawing no. sur dessin no.
C drawing no. dessin no.

project / projet
FISHERIES AND OCEANS CANADA
CANADIAN COAST GUARD
SEARCH AND RESCUE

drawing / dessin
MODIFIED QUAD PORT HARDY PONTOON

designed	GJG
date	2020-05-06
drawn	EB
date	2020-05-06
approved	
date	
Tender	Soumission
PWGSC Project Manager	Administrateur de projets TPSGC

project number / no. du projet
TRNVHWY03179-02

drawing no. / no. du dessin
56134 - 0801 - PH - SHEET 36


Port Hardy DFO Project
Float Moorage Location
Annacis Channel
ANNACIS ISLAND
Fraser River
Fraser River
Fraser River
Fraser River
Cliveden Ave
Derwent Way
Derwent Way
River Rd
River Rd
SUNBURY
T & T Supermarket Incorporated
Telecon
Bird Construction
BCIT Annacis Island Campus (AIC)
Taymor
Ryder Truck Rental
Gordon Food Service
DBC Marine Safety Systems Ltd. / Survitec...
Green Line Hose & Fittings Ltd
Praxair Canada Inc
EAB Exchange-A-Blade
Annacis Wastewater Treatment Plant
Urban Barn Warehouse – Pickup Only
YVR2 Amazon Canada Fulfillment Services
Supreme Steel
VersaCold
Chevron
Cougar Canyon Creek
Delta Cedar Specialties
Alpine Building Maintenance Inc
Ocean Trailer Delta
Quick Shuttle
CanaDream RV Rentals & Sales Vancouver
Baitur Rahman Mosque, Ahmadiyya...
91
17
Google

McALLISTER MARINE SURVEY & DESIGN LTD.
8466 COX DRIVE, MISSION B.C.
CANADA V2V 6V3
604-209-TUGS (8847) FAX 604-826-7202
E-MAIL : mmsdltd@telus.net

June 3, 2016 Our File # V 16/039

Trip in Tow Survey Of

Concrete Floats

For

Vancouver Pile Driving Ltd.

Report of survey undertaken March 8, 2010 review for subsequent 2016 tow by the undersigned surveyor of McAllister Marine Survey & Design Ltd. Survey performed at the request of Mr. Fred McMaster of Vancouver Pile Driving Ltd. for the purposes of approving the towing arrangements and preparations for voyages from the works of Vancouver Pile Driving Ltd. in North Vancouver, B.C. to the Steveston Harbour Authority tie-up in Richmond, B.C. and subsequently to Sydney, B.C. Survey was performed while the units were afloat at the wharves of Vancouver Pile Driving Ltd. in North Vancouver, B.C.

This report consists of 5 pages.

Unit Particulars

The units to be towed consist of a monolithic poured concrete structures fitted with pockets in the concrete deck and internal channels for the later installation of marina services. The structures are formed and poured over large expanded “Styrofoam” blocks and have no bottom shell. One end of each float is to be fitted with a steel weldment in the centerline pocket to serve as base for the towing connection that will distribute towing forces into the structure. We understand that the subject units are identical to the units surveyed and towed in 2010.

Towing Vessel

We understand that the intended tows will be contracted to Gisborne Marine Services with the intention of using the tug. The contractor shall be responsible to ensure that the tug is, in all respects, suitable for the intended tow.

Recommendations

1) Towing connection is to be made to a weldment set into the centerline pocket at one end of each float. The weldments are to be altered from their previous configuration to provide connection points for 2 shackles as shown in the attached drawing. The towing bridle is to be led from the shackle connections through the pockets on the towing end of the float that are transversely outboard of the pocket with the connection.

2) Chafe protection is to be fitted to the synthetic line bridle in way of the outboard pockets where the bridle changes direction from the duct below deck to lead to the tug. We understand that the proposed protection is to be split heavy wall rubber hose that will be closed around the bridle line and secured with heavy steel wire. This method of chafe protection is approved.

3) Chafe protection is to be provided at the point of contact between the tow bridle and the forward end of the float. We understand that the proposed protection will consist of a temporarily installed pipe that will provide a round contact point for the bridle. This method of chafe protection is approved.

4) The outboard towing end wood 12" x 12" rails are to be removed for the tow and secured to the remaining rails securely.

5) Towing speed and towline length to be regulated so as to eliminate sheering of tow as much as possible.

6) Tug to avoid contact with the tow except in calm conditions.

7) Transit of any constricted channel or pass to be made at slack water.

8) That the any of the planned voyage legs be commenced only when the predicted or expected significant wave height for the expected duration of the voyage is 2 feet or less.

9) Towing bridles and connections to be checked for chafe and lead on a regular basis.

10) Assist tugs to be engaged at the master's discretion.

11) Tandem towing is not approved.

12) Float to be lit as a barge during hours in conditions of reduced visibility and at night.

Subject to the above conditions the tows to Steveston Harbour Authority tie-up in Richmond, B.C. and to Sydney, B.C. are approved.

Acceptance and use of this report by the client acknowledges the client's understanding that the report has been composed of information that is believed to be true after reasonable investigation and inquiry but is not warranted to be so. The information was obtained without drilling, diving, ultrasonics, cleaning or opening up to expose parts or conditions ordinarily concealed. There were no tests for tightness or soundness conducted other than the conditions noted visually.

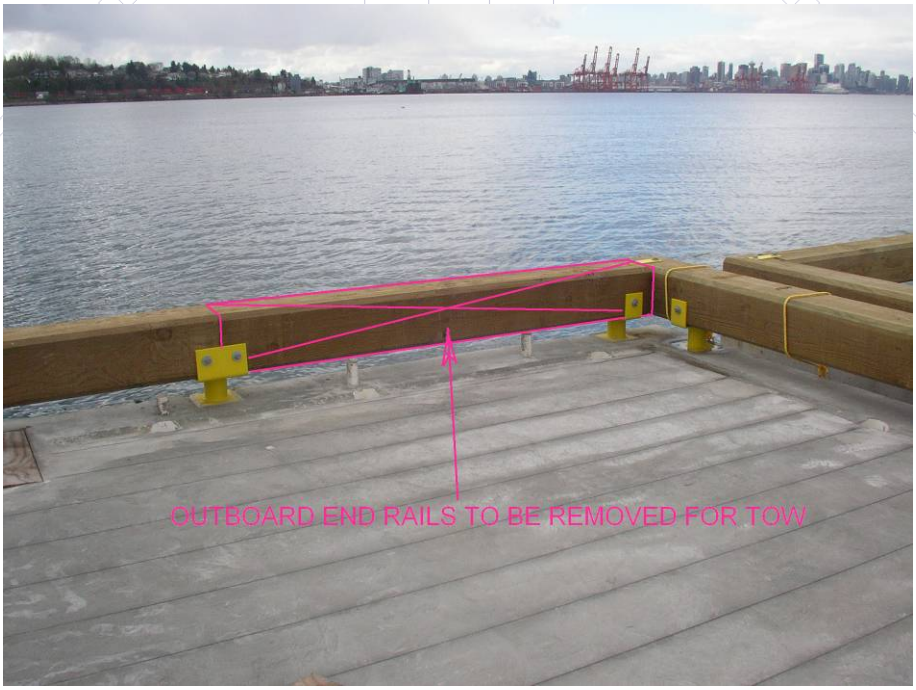
Acceptance and use of this report acknowledges the client's understanding that no determination of stability or structural strength has been made and no opinion is expressed.

Acceptance and use of this report acknowledges the client's understanding that McAllister Marine Survey & Design Ltd. does not accept any responsibility for damage or deterioration not found or discovered during the course of survey, nor for consequential damage, deterioration or loss due to any error or omission.

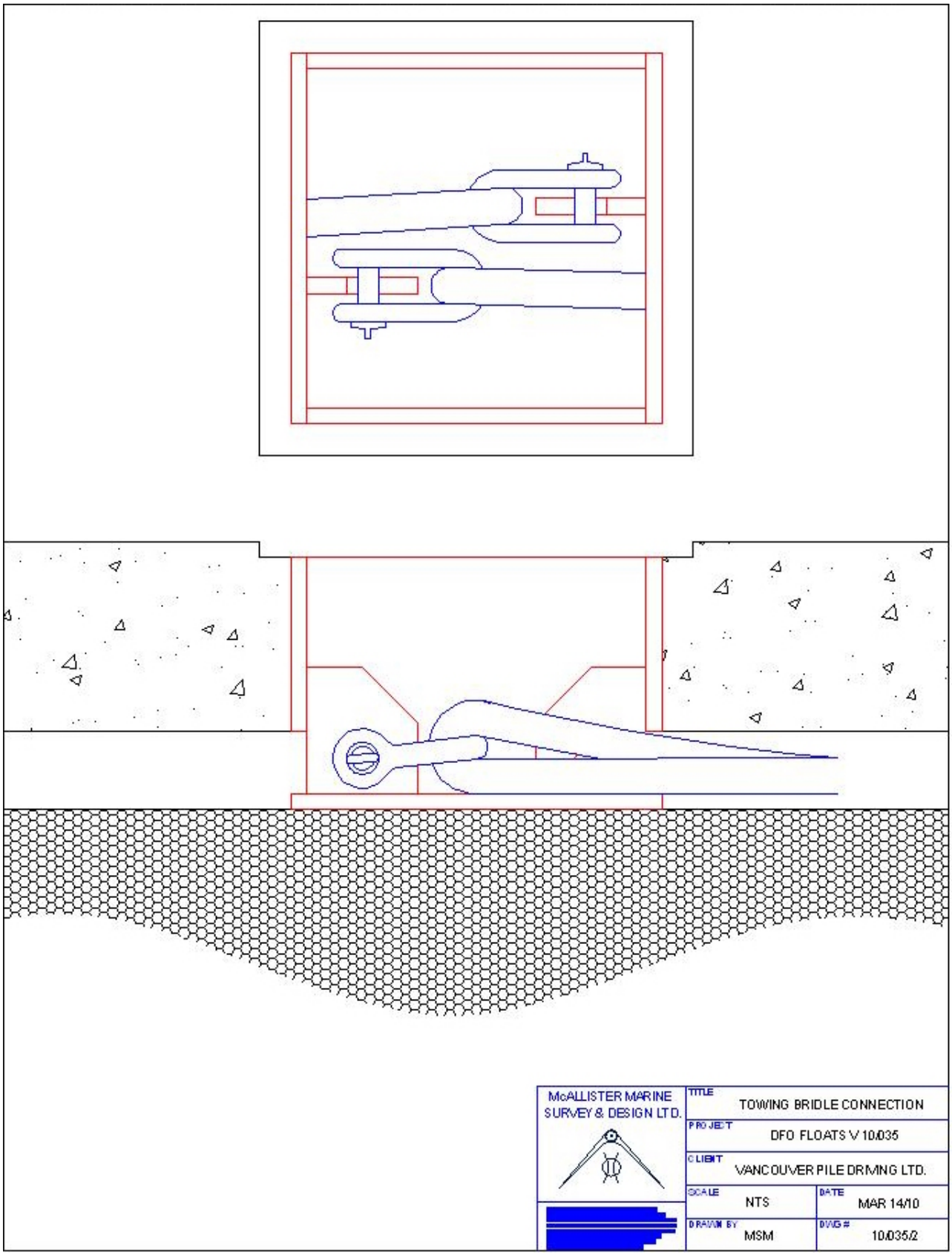
This report issued for the use of Vancouver Pile Driving Ltd.

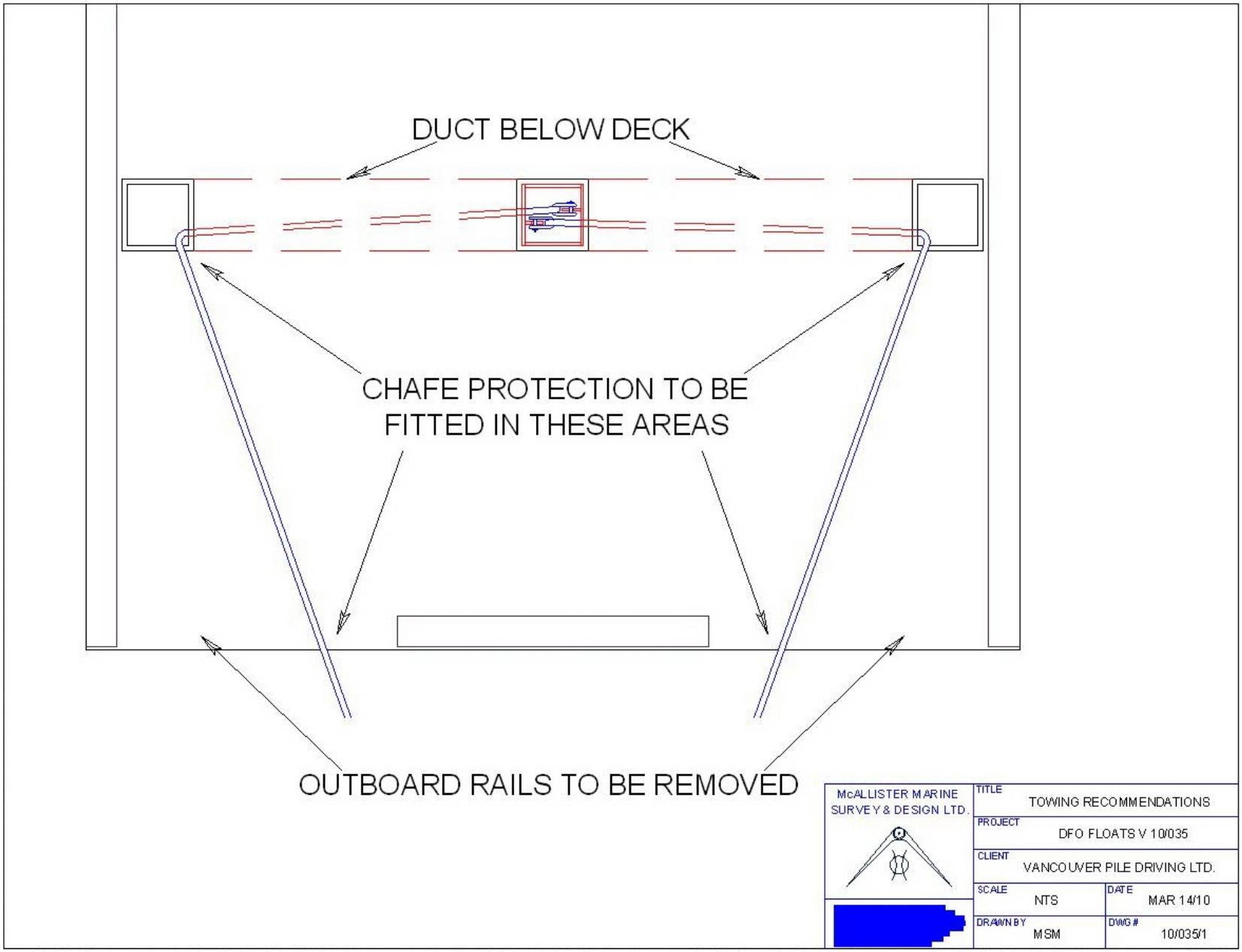
McAllister Marine Survey & Design Ltd.

Marc McAllister
Surveyor



View showing 1 of 2 outboard bull rails to be removed for tow


McALLISTER MARINE
SURVEY & DESIGN LTD.
TITLE
TOWING BRIDLE CONNECTION
PROJECT
DFO FLOATS V 10/035
CLIENT
VANCOUVER PILE DRIVING LTD.
SCALE
NTS
DATE
MAR 14/10
DRAWN BY
MSM
DWG #
10/035/2


DUCT BELOW DECK
CHAFE PROTECTION TO BE FITTED IN THESE AREAS
OUTBOARD RAILS TO BE REMOVED
McALLISTER MARINE SURVEY & DESIGN LTD.
TITLE
TOWING RECOMMENDATIONS
PROJECT
DFO FLOATS V 10/035
CLIENT
VANCOUVER PILE DRIVING LTD.
SCALE
NTS
DATE
MAR 14/10
DRAWN BY
MSM
DWG #
10/035/1

COOLER & FREEZER SCHEDULE

Equp.#	Location	Equipment Description	Model	BTUH (Cooling)	Ambient Temp (°F)	TD (°F)	Saturated Suction Temp (°F)	Refrigerant Charge R448A (lbs)	Line Sizes Liquid | Suction | Drain | Ext. Equalizer	No. Fans|HP	Air Flow (cfm)	AWEF Value	Weight (Lbs)	Voltage	Defrost Type	Elect. Defrost Heater Watts | Amps	Evap. Fan Watts | Amps	Comp. HP	MCA	MOPD
SCU-1	On top of Freezer	Outdoor Scroll Compressor *	Bohn: BCH0035LBACZ	11,541	90.0		-18.9	14.00	½" | ⅞"	2 | 1/15		3.15	232	208-230/1/60	Air Defrost	| 30	| 10	3.5	21.4	35
EVP-1	Inside Freezer	Cooling Evaporator Fan	Bohn: BEL0130DS6EEA	12,953		8.9	-18.9		½" | ⅞" | ¾" | ⅛"	3 | 1/15	2056	4.06	71	208-230/1/60	Electric	3150 | 13.7	177 | 1.5			
SCU-2	On top of Cooler	Outdoor Scroll Compressor *	Bohn: BCH0010MBACZ	10,049	90.0		25.1	9.0	⅜" | ⅝"	1 | 1/15		7.60	179	208-230/1/60	Air Defrost	| 15	| 5	1	15.0	20
EVP-2	Inside Cooler	Cooling Evaporator Fan	Bohn: BEL0105AS6AMA	10,150		9.9	25.1		½" | ⅞" | ¾" | ⅛"	2 | 1/20	1305	9.00	52	208-230/1/60	Air	--- | ---	110 | 1.8			

Equipment Notes:

SCU-1/2 & EVP-1/2 Complete With:
- Electric Defrost Timer
- R448A Refrigerant
- Timeclock
- Low Pressure Control/High Pressure Switch
- TXV
- Drier & Sight Glass
- Liquid Line Solenoid C/W Magnetic Coil (Field Installed)
- Line Voltage Temperature Controls: Johnson Controls A419ABC1 (Or Equal), Mechanical To Supply, Electrical To Install
- EC Motors On Evaporator Fans
- Heat Trace For Freezer Condensate Line @ 7W/Ft /W Integral Thermostat, Mechanical To Supply And Install, Electrical To Connect

* Outdoor Scroll Compressor Installed For Indoor Application To Meet AWEF Spec Requirements

				Walls:	Ceiling	Floor	Doors
Freezer	Warehouse	Rectangular Room Freezer with Ceiling and Floor	Norbec: 13'-4"x 9'-10" x 8'-0" tall	4" Thick, fire rated Interior & Exterior finish: Prepainted white, 26ga galvanized steel	4" Thick, fire rated Interior & Exterior finish: Prepainted white, 26ga galvanized steel	4" Thick, fire rated Interior finish: 18ga galvanized steel Exterior finish: Pre-painted white, 26ga galvanized steel Floor spaces: 1" 16ga galvanized steel	Freezer Type PP-330 52"x78"x4" /4"frame
Cooler	Warehouse	Rectangular Room Cooler with Ceiling	Norbec: 13'-4"x 9'-10" x 8'-0" tall	4" Thick, fire rated Interior & Exterior finish: Prepainted white, 26ga galvanized steel	4" Thick, fire rated Interior & Exterior finish: Prepainted white, 26ga galvanized steel	None	Cooler Type PP-330 52"x78"x4" /4"frame

Equipment Notes:

Freezer Complete With:
- Sealant: Silicone
- 2 Vapor Proof Light Fixtures /W Wire Protectors
- Norbec Corners
- Floor Junction: Male Joint

Cooler Complete With:
- Sealant: Silicone
- 2 Vapor Proof Light Fixtures /W Wire Protectors
- Norbec Corners
- Floor Junction: White PVC U Screed 4"
- Seismic Anchoring Kit

Door Hardware: (Both Freezer And Cooler)
- Hinges: 2x K-1248 Brushed Chrome Flush Hinges
- Handle: 1229C Brushed Chrome W/ Lock
- Closer K-1095 Flush Spring Action
  - Inside Release K-481
  - Magnetic Gasket
  - With Sweep

Alternate Manufacturers: Keeprite, Larkin, Climate Control, Chandler, Bally, Foster

PRINTED 5/21/2020 2:58:05 PM Refrigerant Equip Sched May 15, 2020.dwg

PWGSC – B1 – 1000X707

0 10 20 30 40 50 60 70 80 90 100mm

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

DAS DESIGNED AIR SYSTEMS Limited
MECHANICAL HVAC CONSULTANTS
181 PRINCE JOHN WAY
NANAIMO BC V9T 1K1
PH: (250)758-8139
FAX: (250)751-1056

PROJECT NORTH

Revision/ Revision	Description/Description	Date/Date
0	ISSUED FOR Tender Mechanical Addendum #1	2020/05/21

Client/client

FISHERIES AND OECEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet
6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
JL

Designed by/Concept par
SF

Drawn by/Dessine par
HLC

PWGSC Project Manager/Administrateur de Projets TPSGC
Don Storry

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

Mechanical Addendum #1
Revised Portion of:
HVAC Equipment Schedules M-05

NTS

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
8H500 DATE 2020-01-20	**MSK-01** 1 OF 1	**0**

REM BLOCK C
DISTRICT LOT 2263
PLAN VIP45720

Steel Piling

Steel Piling

Steel Piling

HARDY BAY

LOT 1
PLAN VIP51510

Location of Existing Wharf

Water

SHORELINE

Rocky Beach

Rock Ramp

LOT A
PLAN VIP70568

Treed

Gravel

NATURAL BOUNDARY AS PER PLAN VIP45438

Rocky Beach

Rock Ramp

Treed

Ditch

Gravel

NATURAL BOUNDARY AS PER PLAN VIP45347

LOT 22
PLAN VIP45348

Gravel

Gravel

BLOCK B
DISTRICT LOT 2263
PLAN VIP45720

Water

Rocky Beach

Concrete Pad

Overhang

2 Storey Building

Gravel

LOT 23
PLAN VIP45348

Lockblock Wall (Partially Burried)

Piles - stacking (cut or ground)

Gravel

Wharehouse

Shared Driveway

Gravel

UNCONSTRUCTED ROAD

LOT 21
PLAN VIP45348

Bush

100 UTM ZONE 9
N: 5619490.839
E: 607503.316
Elev.: 13.427

Gravel

LOT 24
PLAN VIP45348

JENSEN COVE ROAD

LOT 20
PLAN VIP45348

Gravel Road

JENSEN COVE ROAD

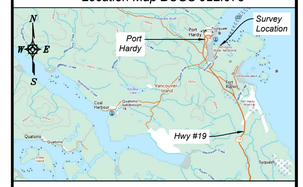
N

W E

S

Public Services and Procurement Canada / Services publics et Approvisionnement Canada
Geomatics Services
219–800 Burrard St., Vancouver, B.C. V6Z 0B9
604–775–7079

Location Map BCGS 92L.073



Date of Survey: February 13 & 25, 2019

drawing

Canadian Coast Guard
Proposed Jensen Cove Site
Topographic Survey Over
Lots 22 & 23, Plan VIP45348
Port Hardy, BC

drawn	S. M. Kavanagh
	2019-02-23
approved	I. R. Robertson
	2019-02-24
project number	R.103725.001
drawing no.	SK # 5678.00
GCDocs no.	185424091
survey file no.	SF # 3573.00, Fb#65, Pg 52-60
REVISIONS:	Feb 25, 2019 - Add Wharf & Ramp gone

NOTES:

Elevations are Orthometric and derived from dual frequency carrier phase GPS observation processed using Natural Resources Canada's Precise Point Positioning Service.

Tag #100
N: 5619490.839m
E: 607503.316m
Elev.: 13.427m

Control Point Datum: NAD83 (CSRS) (2002)
Control Point Vertical Datum: CGVD2013 (CGG2013a)
Control Point Project: UTM Zone 9

Contour Interval = 2m
All Coordinates have been Scaled to Ground

This plan lies within the Mount Waddington Regional District

Legend:

- DENOTES IRON PIN FOUND
- DENOTES CONTROL SPIKE
- DENOTES CAPPED POST
- DENOTES POWER POLE
- DENOTES GUY WIRE
- DENOTES CONCRETE
- DENOTES WATER VALVE
- DENOTES FIRE HYDRANT
- DENOTES TREE/BUSH LINE
- DENOTES OVERHEAD POWER LINE
- DENOTES MAJOR CONTOUR 10M
- DENOTES MINOR CONTOUR 2M
- DENOTES BUILDING
- DENOTES RAMP MADE OF ROCK
- DENOTES SMALL DITCH
- DENOTES GRAVEL ROAD
- DENOTES SUMP
- DENOTES STEEL PILING

HEROLD ENGINEERING

Addendum

DATE: May 28, 2020 **PROJECT No.:** 1691-017

PROJECT NAME:
New Operations Centre
Coast Guard Project - Port Hardy

Attn: Eric Douglas
Chernoff Thompson Architects
1075 W Georgia St.
Vancouver, BC
V6E 3C9

From: Jimmy Valliere

Pages Following

SAD-1

1. *This Addendum shall be read in conjunction with and considered as an integral part of the Contract Documents; revisions supersede the information contained in the original drawings, specifications or previously issued Addendum.*
2. *Tender Price submitted shall include all items of this Addendum.*
3. *No consideration will be allowed for any extras due to any bidder not being familiar with the contents of this Addendum.*

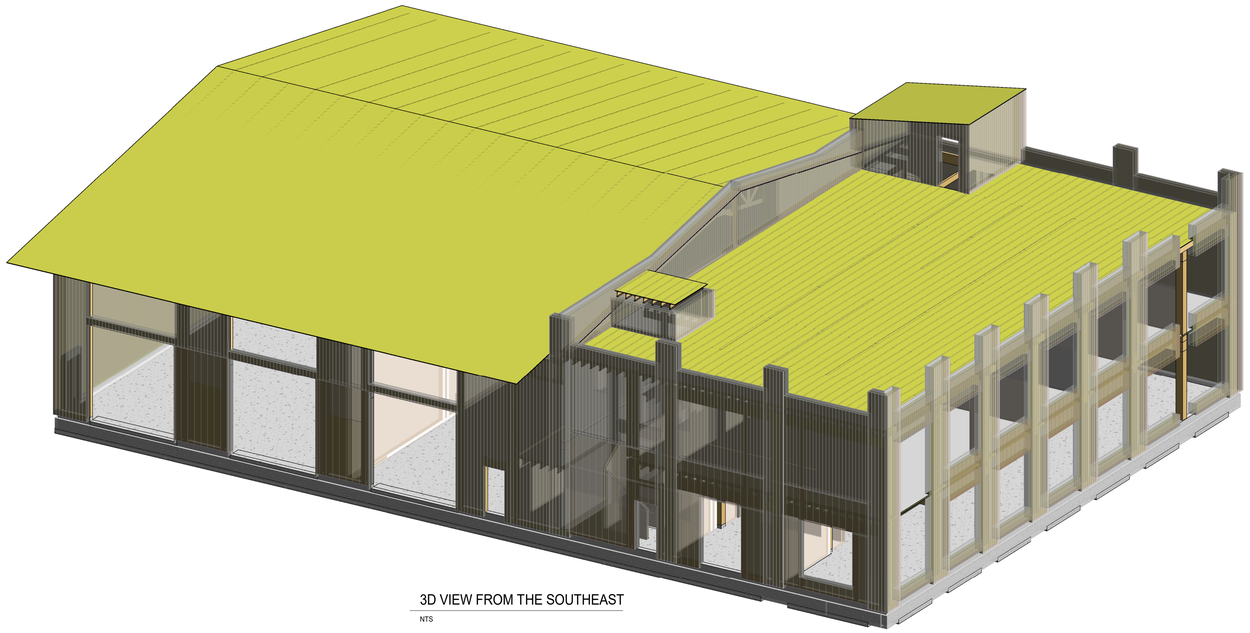
Addendum Information

- Added a typical detail for flag pole bases on S102
- Added control joints to the slab-on-grade in the office area on S201

Per: James Valliere
Jimmy Valliere

CC:

PORT HARDY LOGISTICS DEPOT
PORT HARDY, BC



3D VIEW FROM THE SOUTHEAST

NTS

GENERAL LEGEND

SECTION / DETAIL GRAPHICS

- CONCRETE - CUT IN SECTION
- CONCRETE - BEYOND
- EXISTING STRUCTURE

PLAN GRAPHICS

- CONCRETE - CUT IN PLAN
- CONCRETE - BEYOND
- SW1 — MARK LOCATION DENOTES SIDE OF SHEARWALL TO BE SHEATHED
- WOOD SHEARWALL
- WOOD WALLS / COLUMNS BELOW
- BEAM
- STEEL BRACE
- JOIST SPAN
- JOIST SPAN w/ CANTILEVERS
- EL: 5000 — ELEVATION MARKER
- WP — WORK POINT
- EXISTING STRUCTURE
- EXISTING WALLS - BELOW
- EXISTING BEAMS / JOISTS

CALLOUT / SCHEDULE GRAPHICS

- SECTION/ELEVATION SYMBOL
- 1 / S201 — SECTION/ELEVATION NUMBER / SHEET WHERE DRAWN
- PLAN DETAIL SYMBOL
- 1 / S401 — DETAIL NUMBER / SHEET WHERE DRAWN
- F1 — FOOTING TYPE
- CC1 — CONCRETE COLUMN TYPE
- CW1 — CONCRETE WALL TYPE
- CB1 — CONCRETE BEAM TYPE
- GB1 — GRADE BEAM TYPE
- BP1 — BASE PLATE TYPE
- SC1 — STEEL COLUMN TYPE
- SW1 — SHEAR WALL TYPE
- Z1 — SHEAR WALL ZONE TYPE
- HD1 — HOLD DOWN TYPE
- P1 — POST TYPE
- P1-2C — POST TYPE W/ No OF CRIPPLES
- 1 — REVISION NUMBER

LIST OF ABBREVIATIONS

(E)	EXISTING
ALT	ALTERNATE
ARCH	ARCHITECTURAL
B/S	BOTH SIDES
BCE	BOTTOM CHORD EXTENSION
BP	BASE PLATE
C/W	COMPLETE WITH
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CP	COMPLETE PENETRATION
DL	DEAD LOAD
DP	DEEP
DS	DRAG STRUT
DWG	DRAWING
E/E	EACH END
E/F	EACH FACE
E/S	EACH SIDE
E/W	EACH WAY
ELEC	ELECTRICAL
ELEV	ELEVATION
EM	EMBED PLATE
EXT	EXTERIOR
F/O	FACE OF
FD	FLOOR DRAIN
FF	FAR FACE
GALV	GALVANIZED
GT	GIRDER TRUSS
H1E	HOOK ONE END
H2E	HOOK 2 ENDS
HORIZ	HORIZONTAL
INT	INTERIOR
L/W	LONG WAY
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL

LIST OF ABBREVIATIONS

LLV	LONG LEG VERTICAL
LV	LENGTH VARIES
LVL	LAMINATED VENEER LUMBER
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
NF	NEAR FACE
NIC	NOT IN CONTRACT
No	NUMBER
NTS	NOT TO SCALE
O/A	OVERALL
O/C	ON CENTRE
O/F	OUTSIDE FACE
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
PL	PLATE
PP	PARTIAL PENETRATION
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
R/W	REINFORCE WITH
RD	ROOF DRAIN
REINF	REINFORCE(MENT)
S/W	SHORT WAY
SCL	STRUCTURAL COMPOSITE LUMBER
SDL	SUPERIMPOSED DEAD LOAD
SIM	SIMILAR
STIR	STIRRUP
STL	STEEL
SWL	SAFE WORKING LOAD
T&B	TOP AND BOTTOM
T&C	TENSION AND COMPRESSION
T&G	TONGUE AND GROOVE
T/O	TOP OF
THK	THICK
TJ	TIE JOIST
TYP	TYPICAL
U/S	UNDERSIDE
ULS	ULTIMATE LIMIT STATES
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WP	WORK POINT

PROJECT TEAM

STRUCTURAL
HEROLD ENGINEERING LIMITED
3701 SHENTON ROAD
NANAIMO, BC, V9T 2H1

PROJECT LEAD: JIMMY VALLIERE
PH: 250 751 8558
EMAIL: JVALLIERE@HEROLDENGINEERING.COM

REVIT MODELLER: LUCAS HO
PH: 250 751 8558
EMAIL: LHO@HEROLDENGINEERING.COM

DRAWING LIST

STRUCTURAL DRAWING ISSUE RECORD

ISSUE No.	ISSUE DATE (YYYY.MM.DD)	ISSUED FOR	DRAWING NUMBER S101	S102	S103	S104	S201	S202	S203	S301	S302	S303
00	2020.01.20	TENDER	●	●	●		●	●	●	●	●	●
01	2020.03.26	TENDER REV.1	●	●	●		●	●	●	●	●	●
02	2020.05.25	STRUCTURAL ADDENDUM 1	●	●	●		●	●	●	●	●	●

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

HEROLD ENGINEERING
3701 Shenton Rd. Nanaimo, BC V9T 2H1
T: 250 751 8558 F: 250 751 8559
E: mail@heroldengineering.com

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — J. S. VALLIERE — 39417 — 2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
-

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin
COVER PAGE

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
1691-017 DATE 2020-01-20	**S101**	**2**

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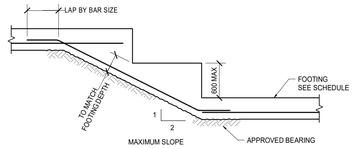

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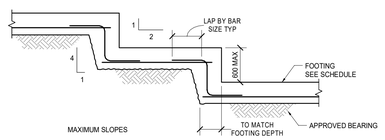
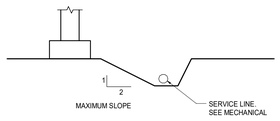
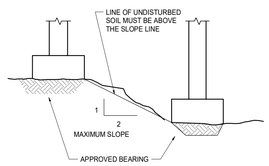


OPTION 1

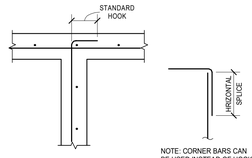
TYPICAL STEPPED FOOTING DETAIL
NTS



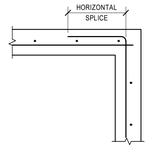
TYPICAL SERVICE TRENCH/ADJACENT FOOTING
NTS



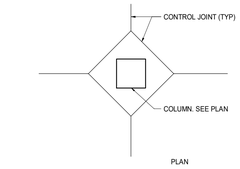
TYPICAL ADJACENT FOOTINGS
NTS



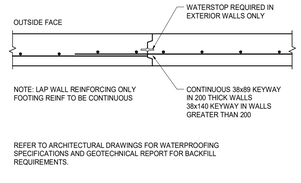
NOTE: CORNER BARS CAN
BE USED INSTEAD OF HOOK BARS



TYPICAL WALL REINFORCING AT CORNERS
NTS

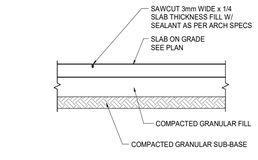


TYPICAL CONTROL JOINTS AT COLUMN
NTS

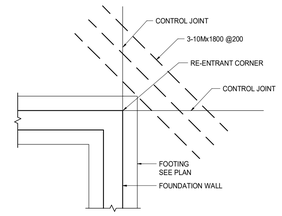


REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING SPECIFICATIONS AND GEOTECHNICAL REPORT FOR BACKFILL REQUIREMENTS.

TYPICAL WALL CONSTRUCTION JOINT
NTS

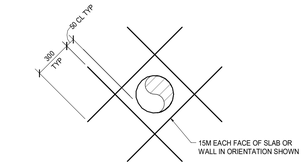


TYPICAL SLAB ON GRADE CONTROL JOINT
NTS



AT RE-ENTRANT CORNER

TYPICAL CONTROL JOINT
NTS

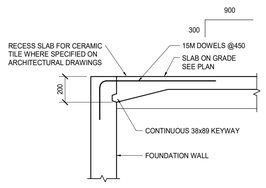


CIRCULAR

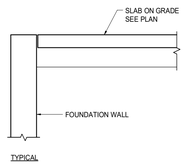
RECTANGULAR

FOR OPENINGS UP TO 600x600

TYPICAL REINFORCING AROUND OPENINGS
NTS



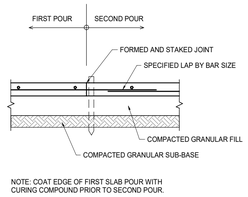
DETAIL AT SEAMLESS
OR CERAMIC TILE
FLOORS



TYPICAL

AT FOUNDATION WALL

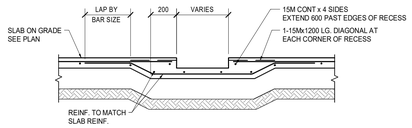
TYPICAL SLAB ON GRADE DETAILS
NTS



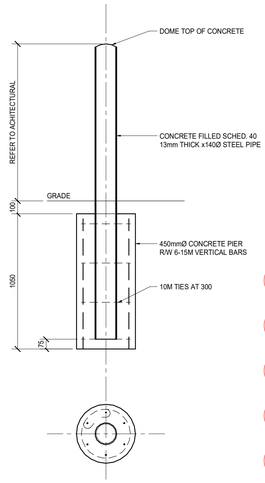
NOTE: COAT EDGE OF FIRST SLAB POUR WITH
CURING COMPOUND PRIOR TO SECOND POUR.

REINFORCED SLAB

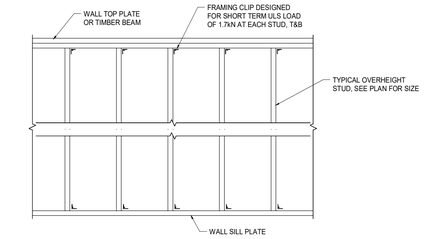
TYPICAL SLAB-ON-GRADE CONSTRUCTION JOINT
NTS



SLAB ON GRADE RECESS
NTS

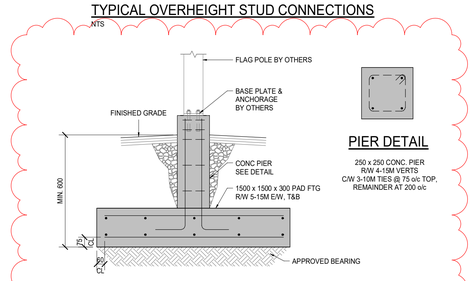


TYPICAL BOLLARD DETAIL
NTS



TO BE USED FOR STUDS >3660 TALL

TYPICAL OVERHEIGHT STUD CONNECTIONS
NTS



PIER DETAIL

250 x 250 CONC. PIER
R/W 4-15M VERTS
C/W 3-10M TIES @ 75 o/c TOP,
REMAINDER AT 200 o/c

TYPICAL FLAG POLE BASE DETAIL
NTS

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

HEROLD ENGINEERING
3701 Shenton Rd. Nanaimo, BC V9T 2H1
T: 250 751 8558 F: 250 751 8559
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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. SAVOLDIERE
27411
2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
Checker

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

TYPICAL DETAILS

Project No./No. du projet	Sheet/ Feuille	Revision no./ Le Révision no.
1691-017 DATE 2020-01-20	**S102**	**2**

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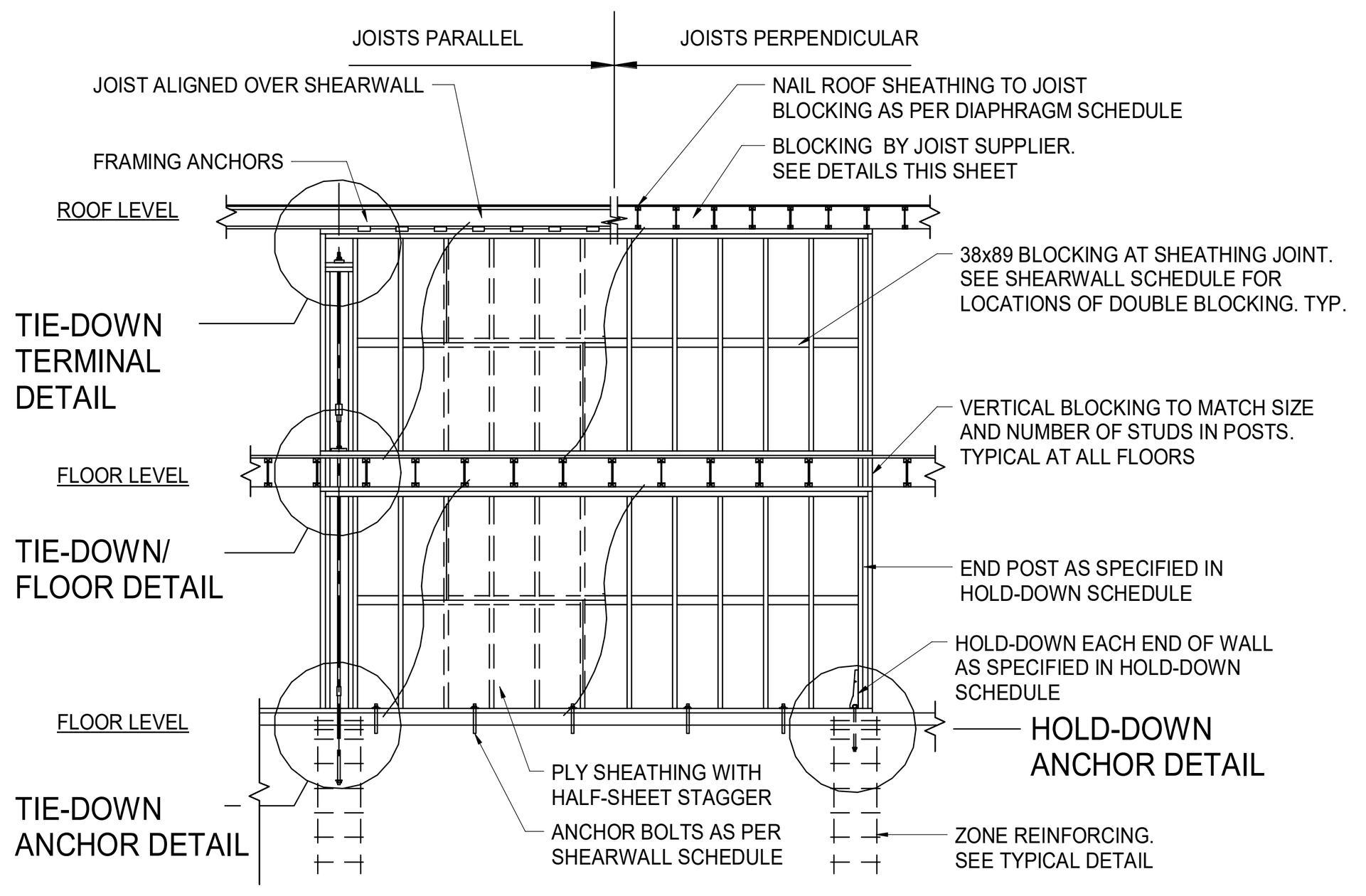
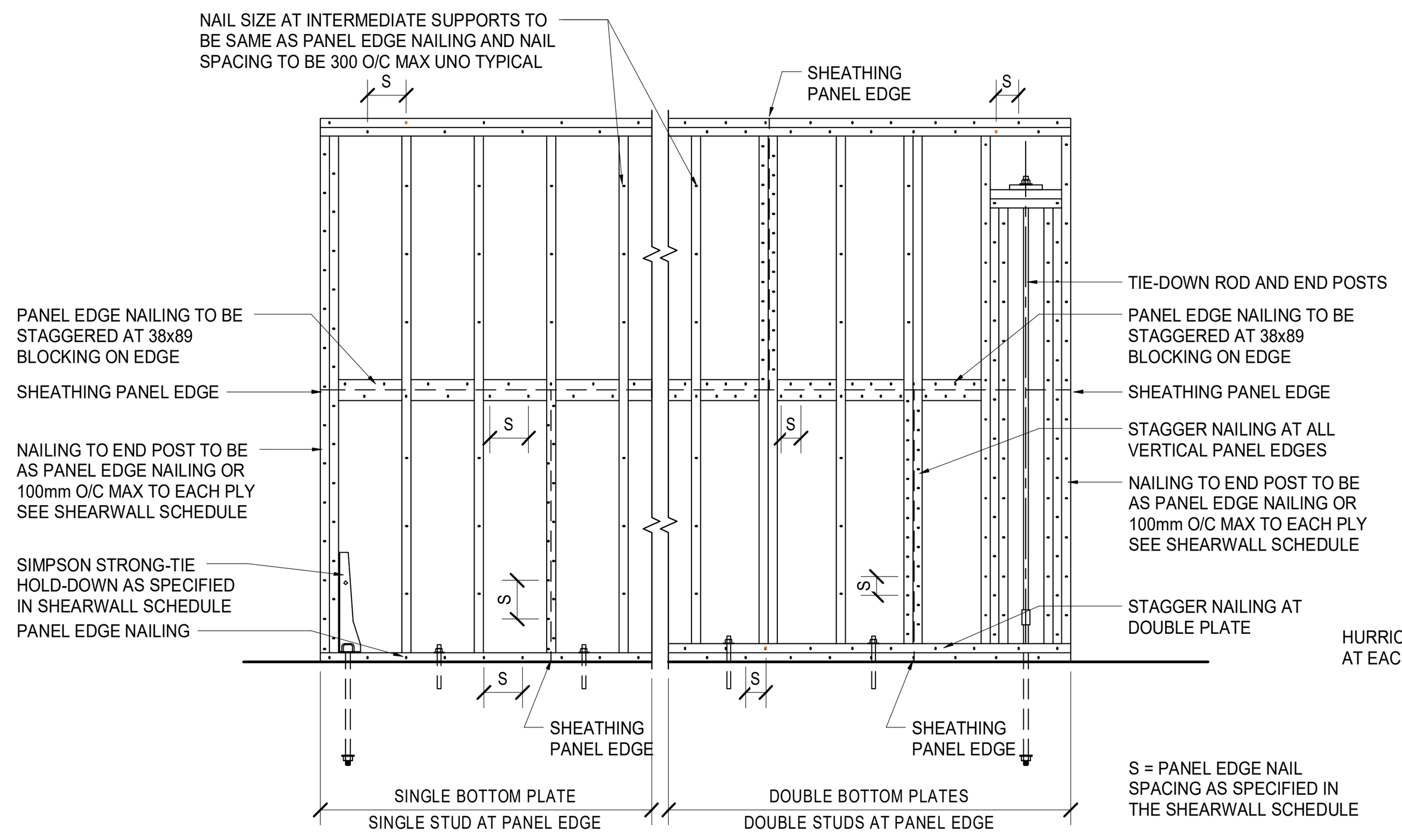
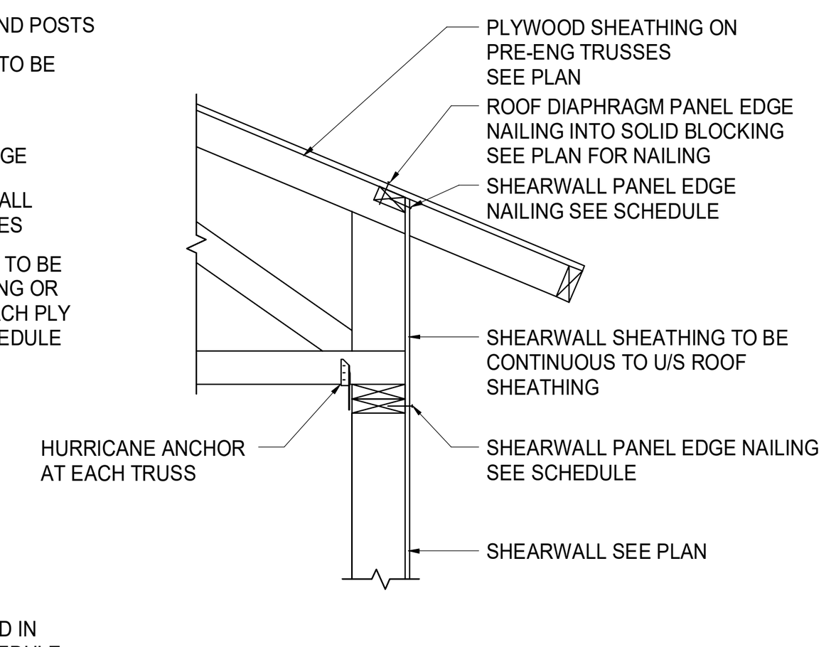
PWGSC – B1 – 1000x707



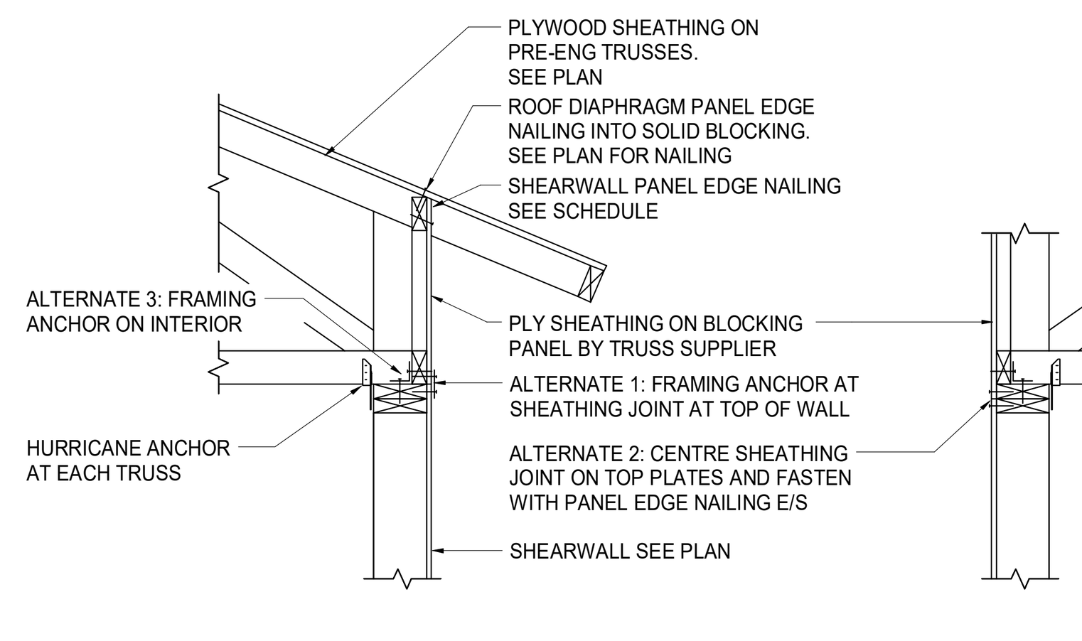
SHEARWALL KEY ELEVATION
NTS



FOR SHEARWALL SHEATHING
SHEARWALL NAILING PATTERNS
NTS

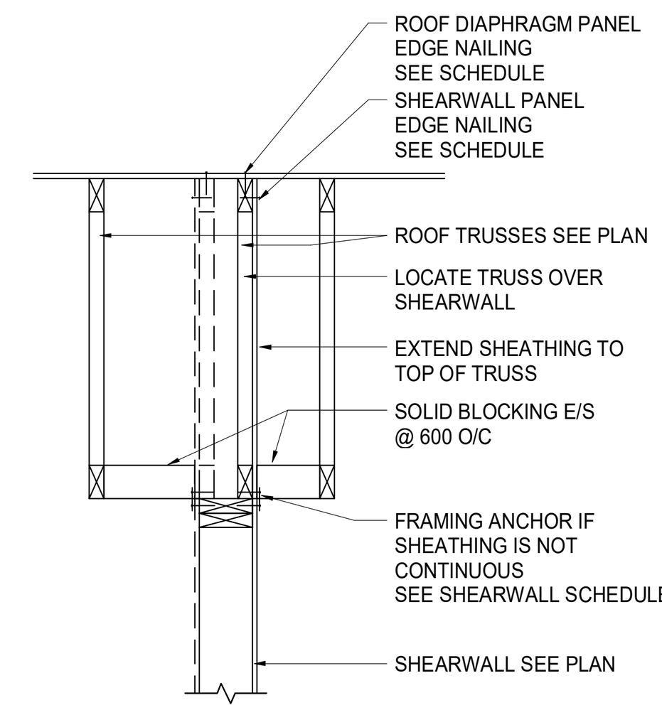


HIGH HEEL TRUSS W/ SHEATHING



HIGH HEEL TRUSS W/ BLOCKING PANEL

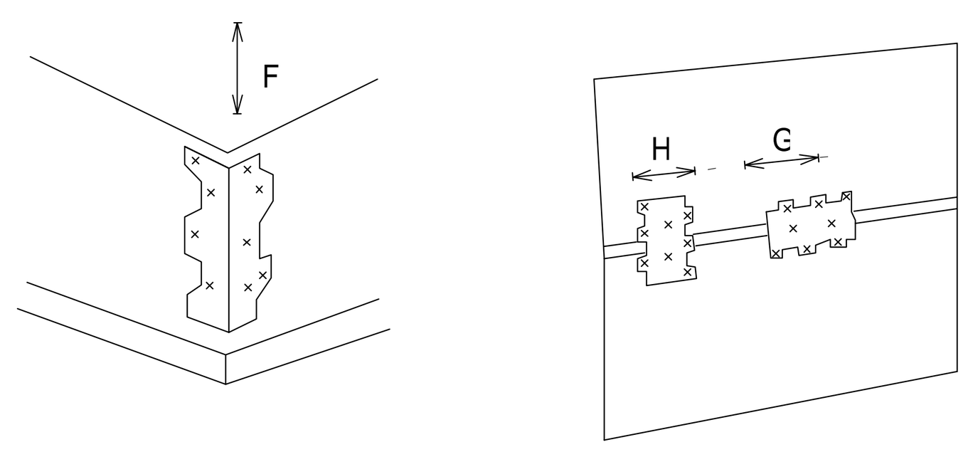
TRUSSES PERPENDICULAR
SHEARWALL/ROOF CONNECTIONS
NTS



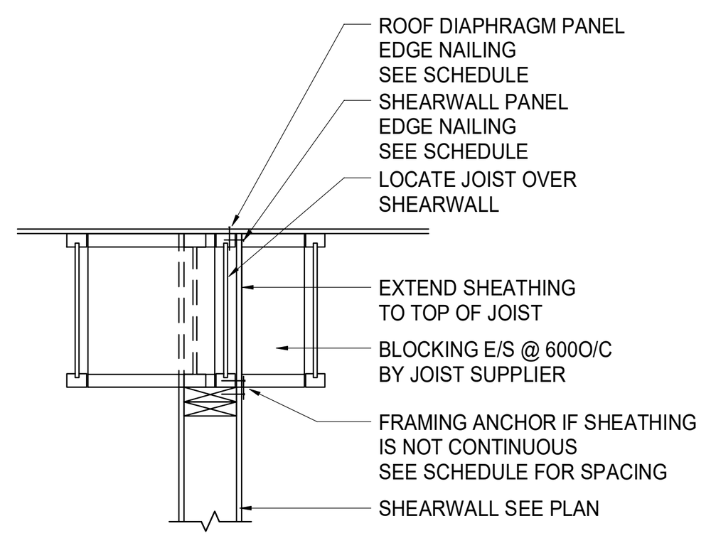
TRUSSES PARALLEL
SHEARWALL/ROOF CONNECTION
NTS

DRAWING NOTES

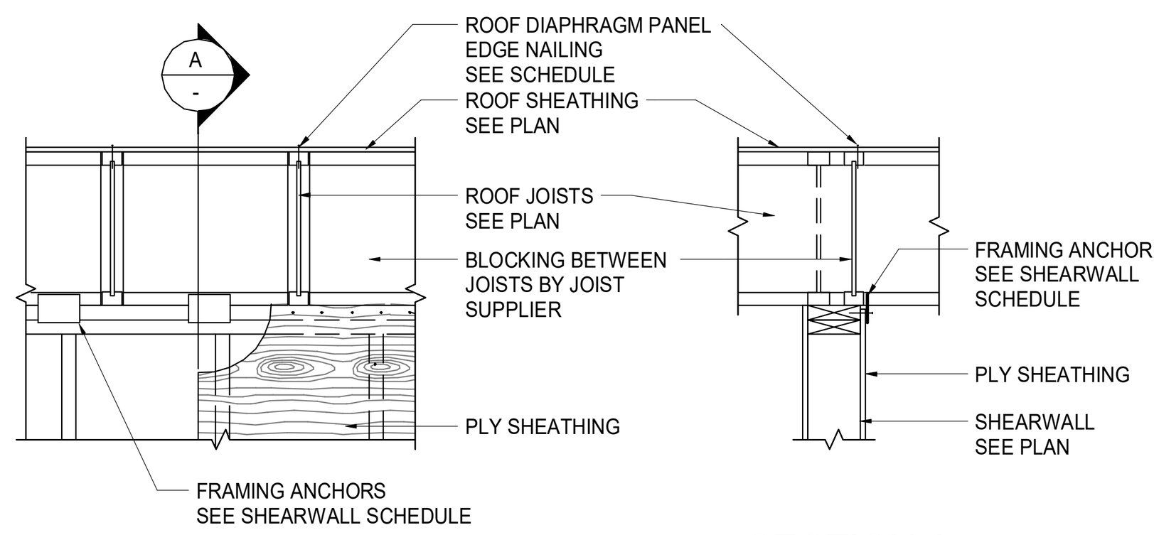
1. DETAILS ON THIS SHEET SHOW CRITICAL CONNECTIONS TO TRANSFER LOADS THROUGH THE BUILDING. ANY VARIATION FROM THESE DETAILS MUST RECEIVE APPROVAL FROM THE PROJECT ENGINEER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DESIGN AND REMEDIATION IF FRAMING DOES NOT CONFORM TO THESE DETAILS.
2. SEE FRAMING PLAN FOR SHEARWALL TYPES AND LOCATIONS.
3. PLACING PLYWOOD SHEETS VERTICALLY IS ACCEPTABLE.
4. NO PANEL JOINTS ARE TO OCCUR AT END POSTS.
5. SHEATHING TO BE D.FIR PLYWOOD.
6. SPACING AT ALL PANEL EDGES TO BE AS PER THE SHEAR WALL SCHEDULE.
7. SHEARWALL INTERMEDIATE SUPPORT NAILS TO BE THE SAME AS EDGE NAILS BUT @ 300 O/C.
8. PLACE PLYWOOD FOR SINGLE SIDED WALLS ON THE SAME SIDE AS SYMBOL ON THE PLAN. SHEATHING AND BLOCKING FOR DOUBLE SIDED SHEAR WALLS ARE SHOWN WITH BROKEN LINES. NAILING AND FRAMING ANCHORS SPECIFIED APPLY TO BOTH SIDES OF THE WALL.
9. WHERE "FRAMING ANCHORS" ARE CALLED FOR ON THESE DRAWINGS, THEY SHALL BE CAPABLE OF RESISTING 2.5kN OF SHORT TERM ULS LOAD IN THE DIRECTION DEPICTED HERE (FORCES 'F' 'H' & 'G'); UNLESS NOTED OTHERWISE:



NOTE 9
FRAMING ANCHOR DETAILS
NTS

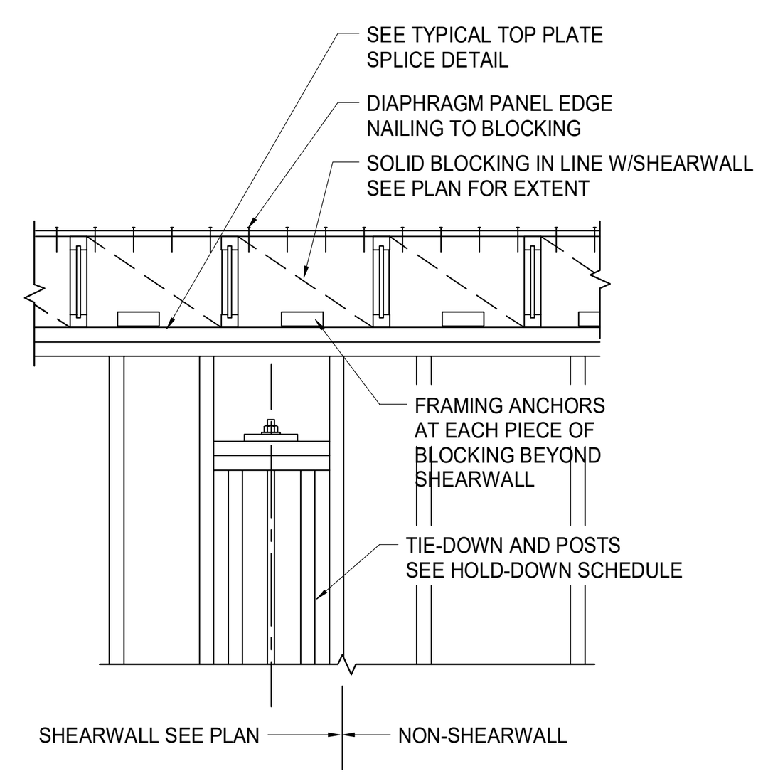


ROOF JOISTS PARALLEL
SHEARWALL/ROOF CONNECTION
NTS

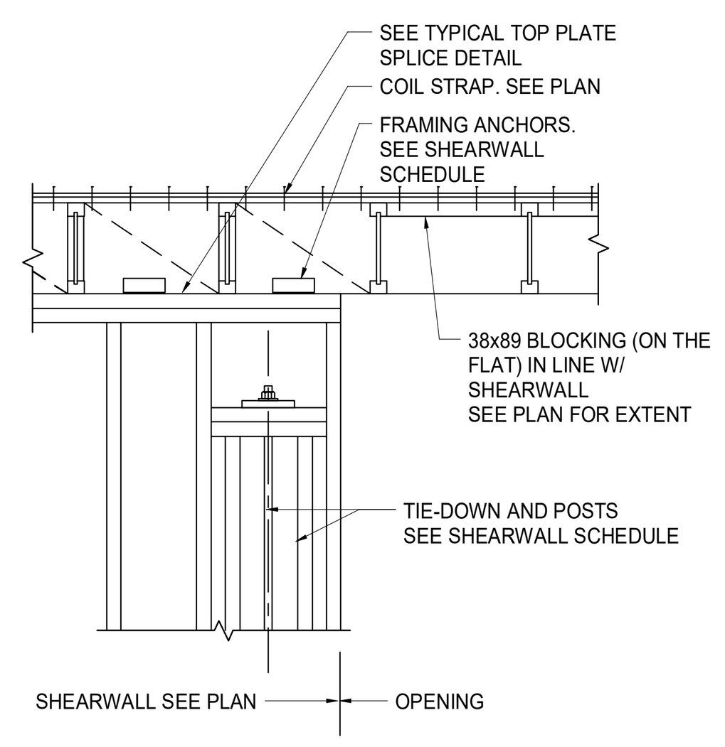


SECTION A

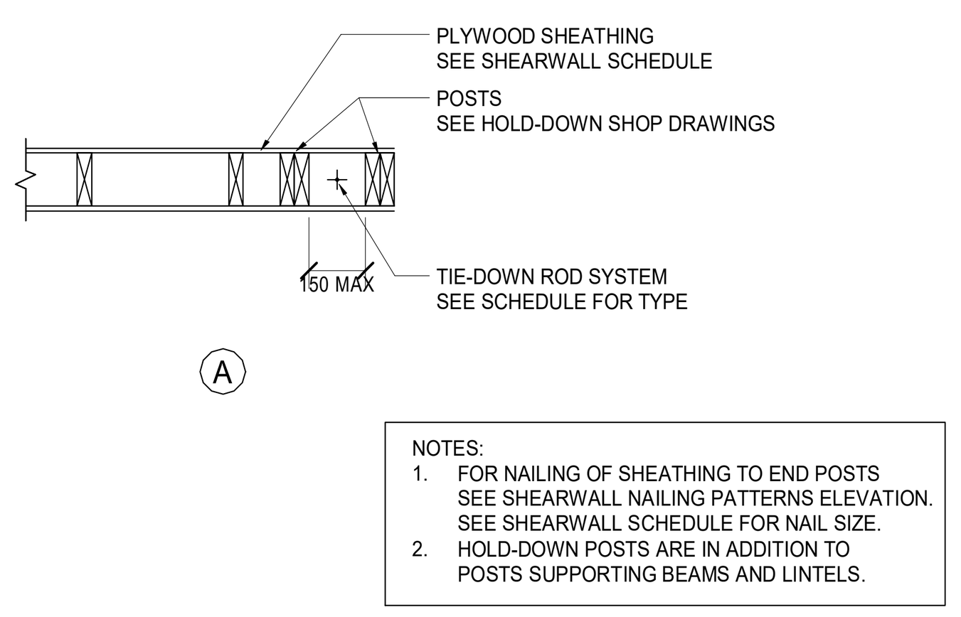
ROOF JOISTS PERPENDICULAR
SHEARWALL/ROOF CONNECTION
NTS



TYPICAL TOP OF WALL DETAIL
NTS

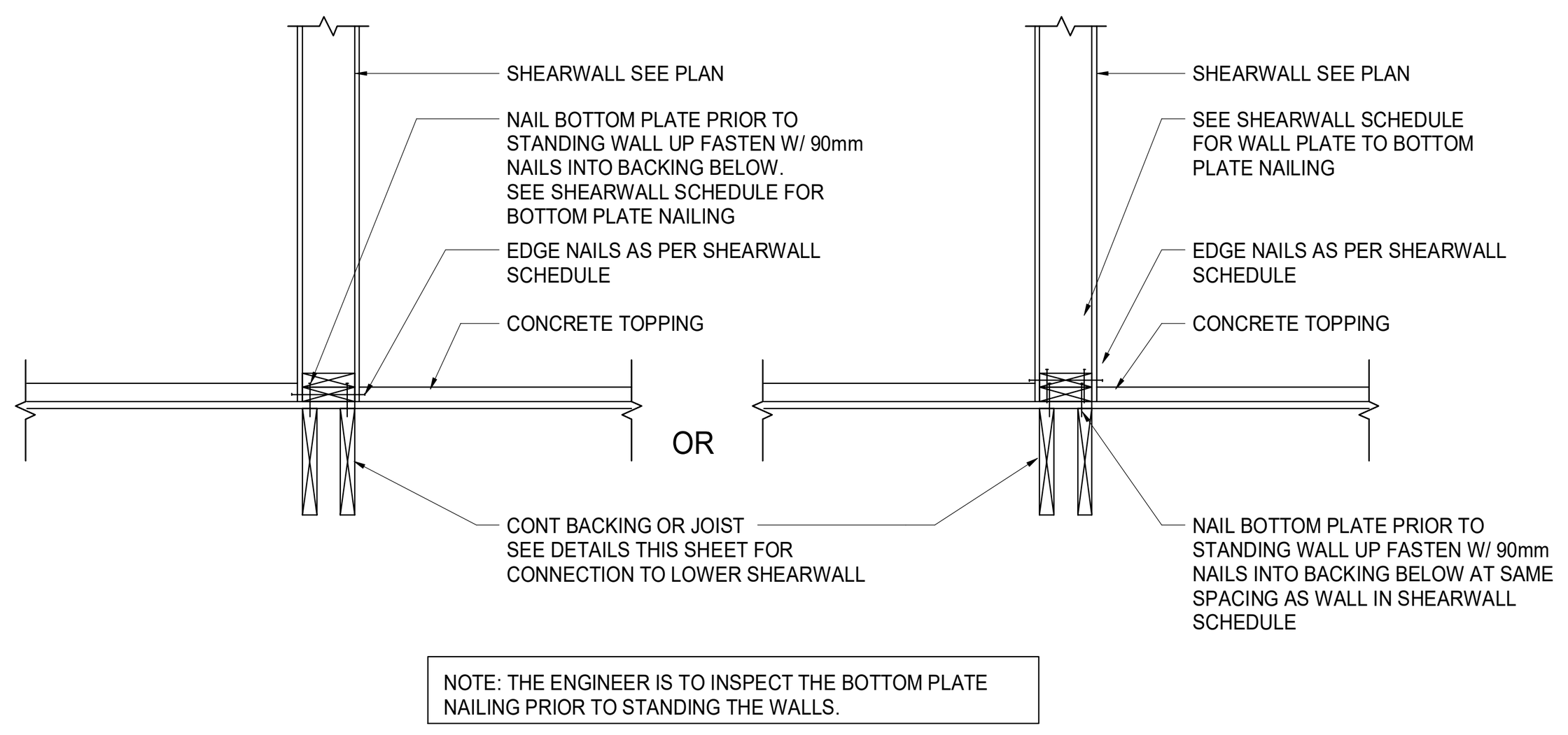


TYPICAL COIL STRAP DETAIL
NTS



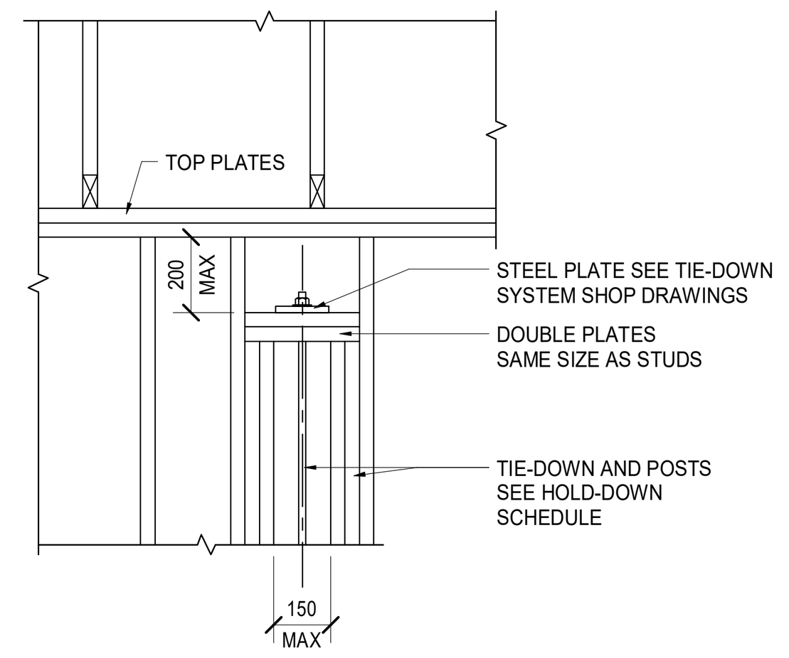
NOTES:
1. FOR NAILING OF SHEATHING TO END POSTS SEE SHEARWALL NAILING PATTERNS ELEVATION. SEE SHEARWALL SCHEDULE FOR NAIL SIZE.
2. HOLD-DOWN POSTS ARE IN ADDITION TO POSTS SUPPORTING BEAMS AND LINTELS.

TYPICAL PLAN DETAILS AT TIE-DOWNS
NTS

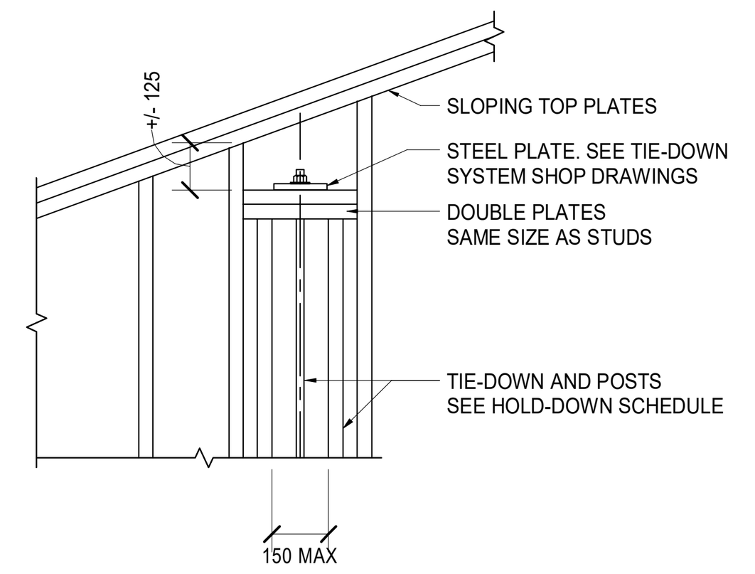


NOTE: THE ENGINEER IS TO INSPECT THE BOTTOM PLATE NAILING PRIOR TO STANDING THE WALLS.

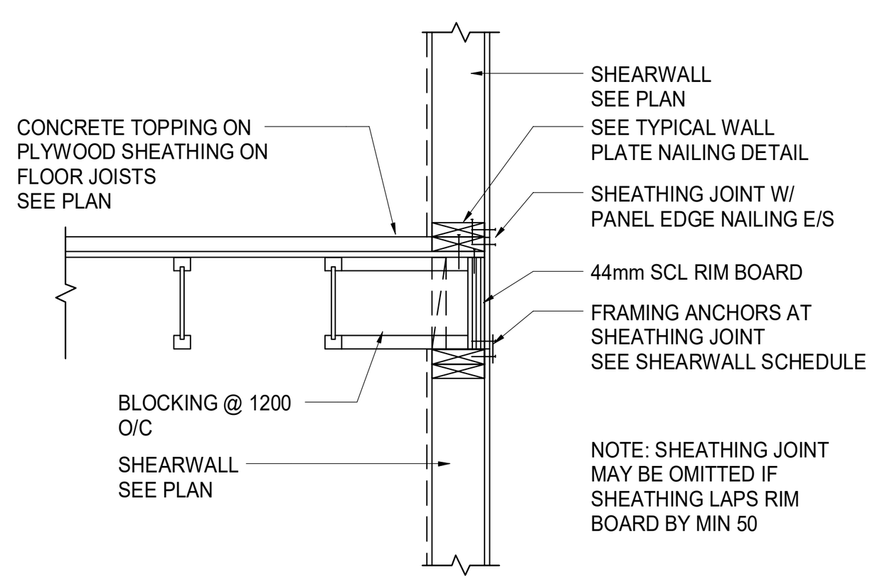
SHEARWALLS TO FLOORS WITH CONCRETE TOPPING
TYPICAL WALL PLATE NAILING
NTS



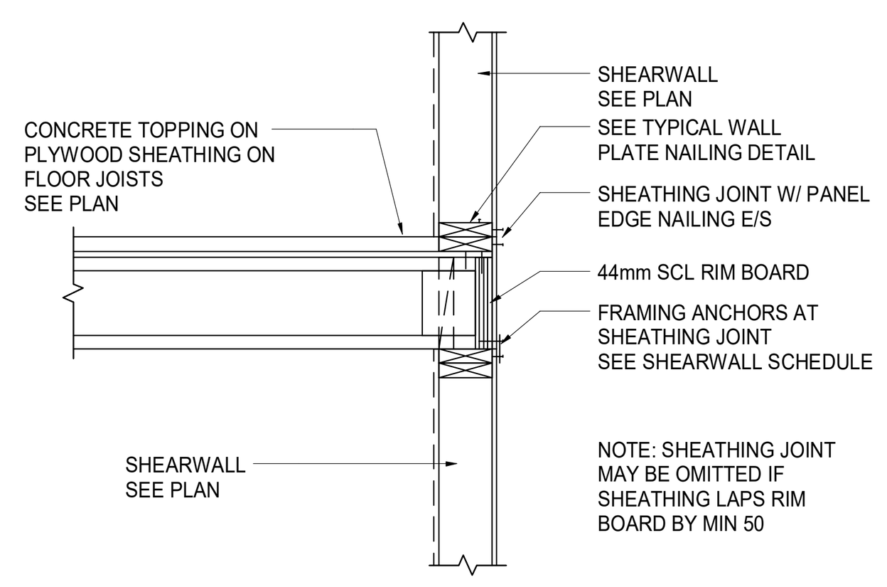
AT LEVEL TOP PLATES
TIE-DOWN TERMINAL DETAIL
NTS



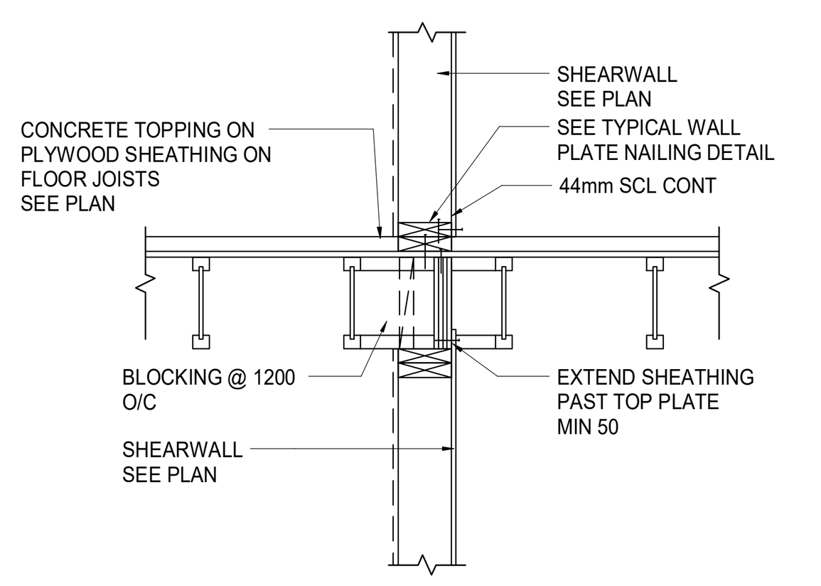
AT SLOPING TOP PLATES
TIE-DOWN TERMINAL DETAIL
NTS



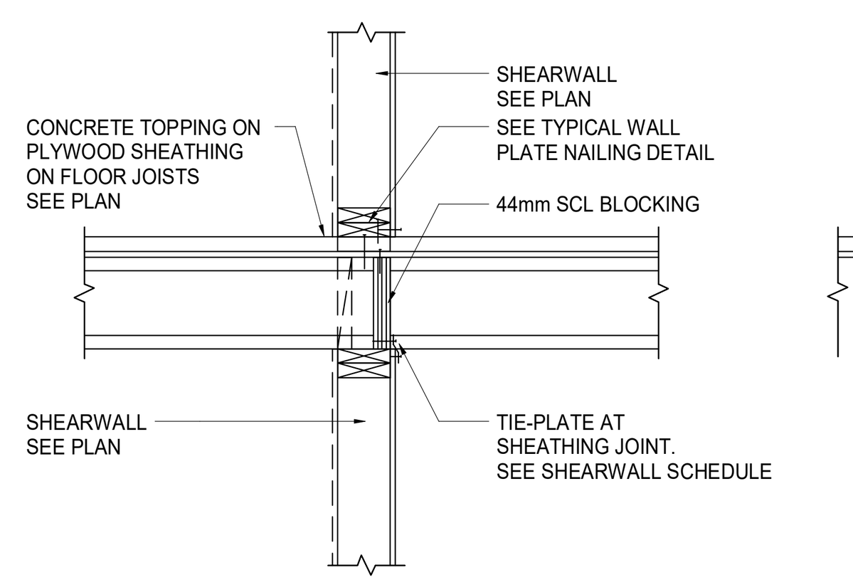
JOISTS PARALLEL
EXTERIOR OR STAIRWELL SHEARWALL
NTS



JOISTS PERPENDICULAR
EXTERIOR OR STAIRWELL SHEARWALL
NTS



JOISTS PARALLEL
INTERIOR SHEARWALL
NTS



JOISTS PERPENDICULAR
INTERIOR SHEARWALL
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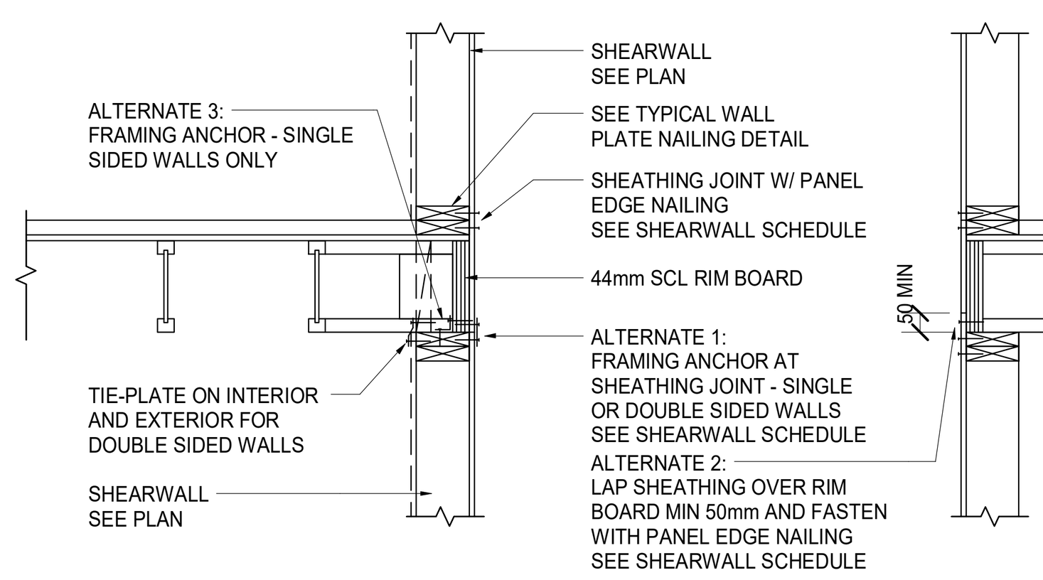
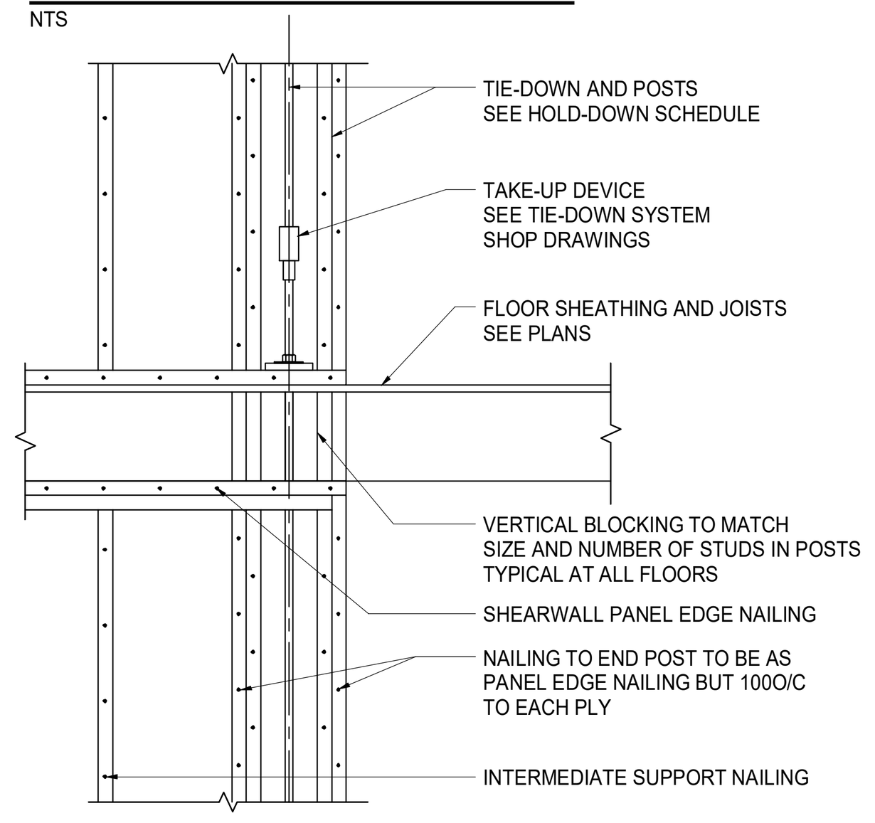
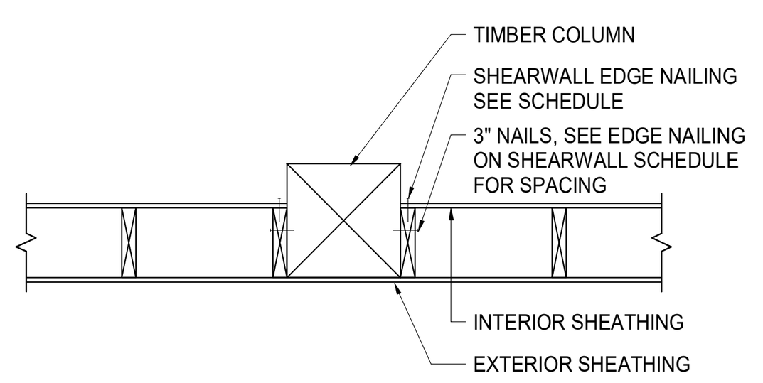


SHEARWALL TO FLOOR OR ROOF
ALTERNATE CONNECTIONS
NTS

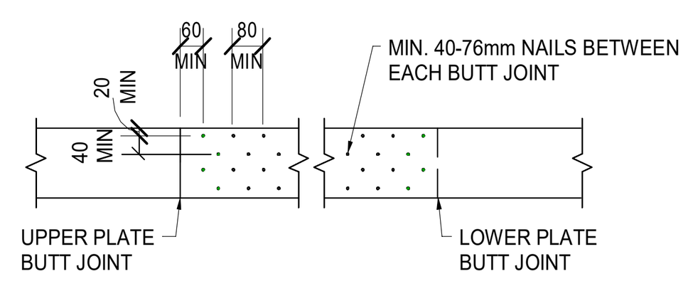
NOTE:
THESE ALTERNATES CAN BE APPLIED TO ANY DETAIL SHOWING FLOOR OR ROOF CONNECTIONS TO A SHEARWALL



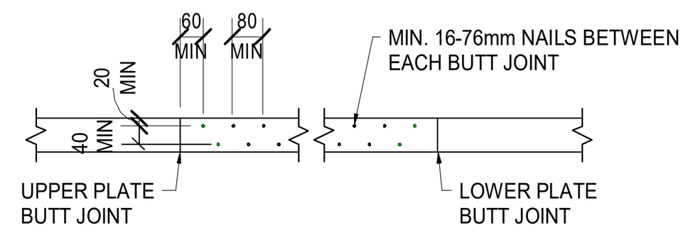
TIE-DOWN/FLOOR DETAIL
NTS



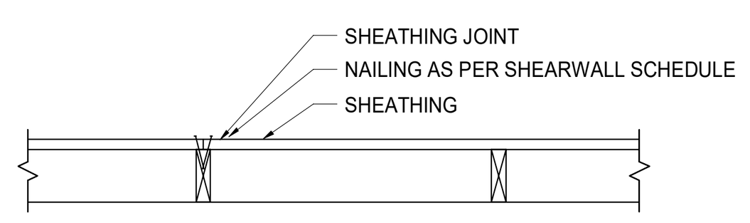
TWO SIDED SHEARWALL INTERSECTING TIMBER COLUMN
TYPICAL SHEARWALL CONNECTION DETAIL
NTS



38x184 DOUBLE TOP PLATE
TYPICAL TOP PLATE SPLICE
NTS

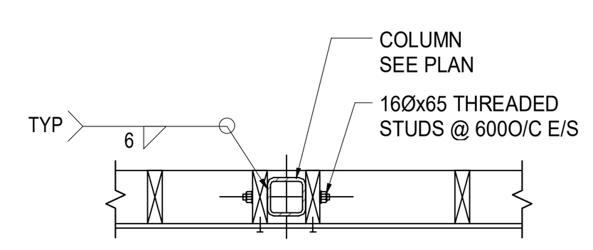


38x89 DOUBLE TOP PLATE
TYPICAL TOP PLATE SPLICE
NTS

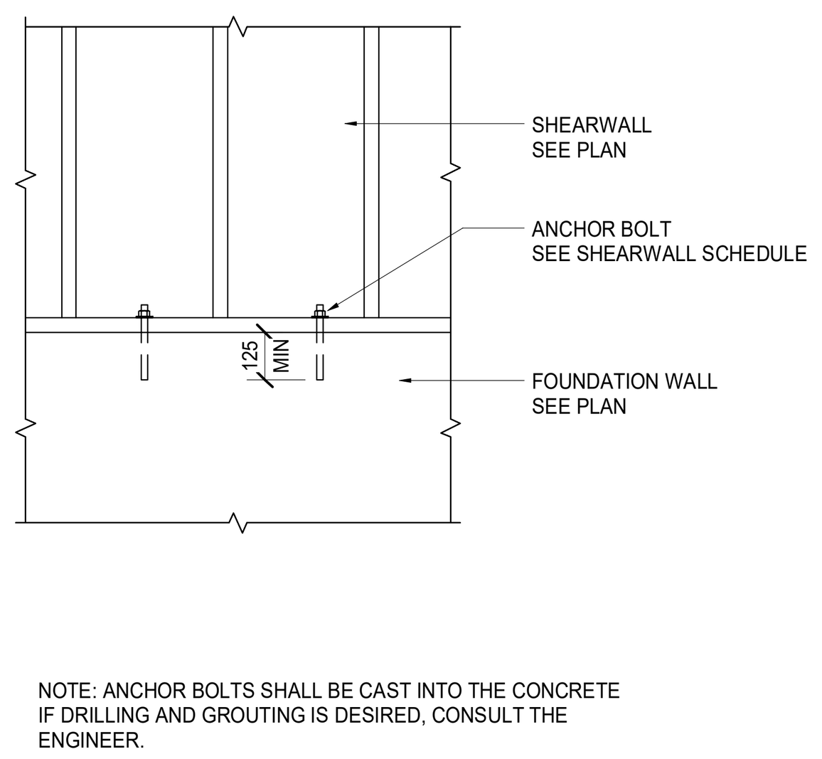


65 OR SHORTER NAILS AT 75 O/C AND MORE

TYPICAL SHEATHING JOINT DETAILS
NTS

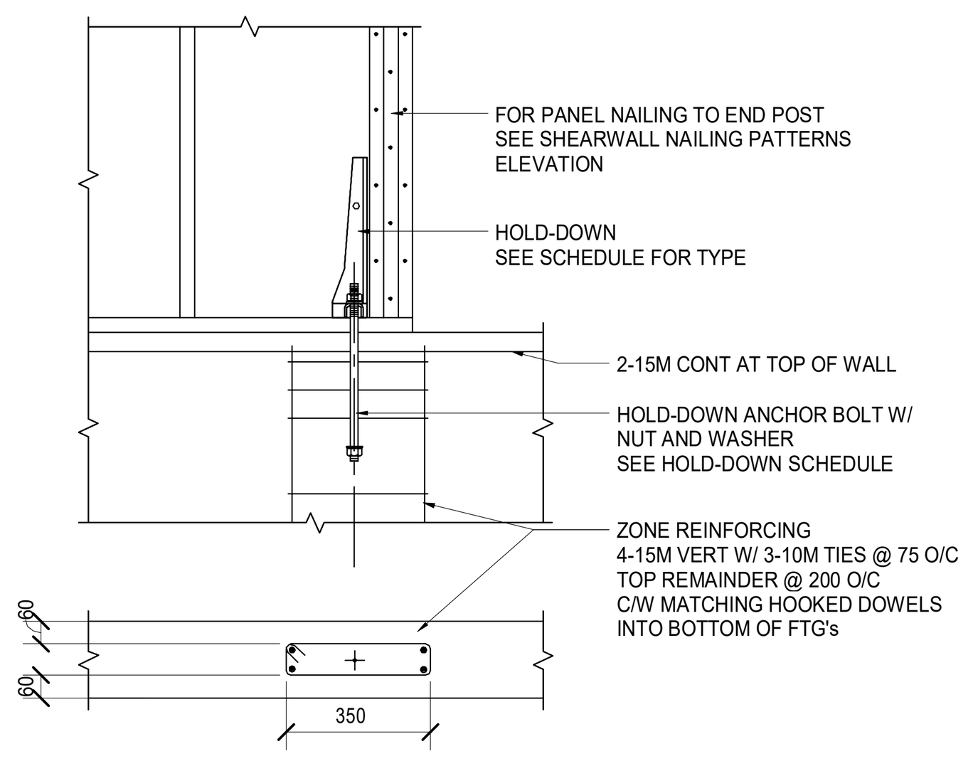


TYPICAL CONNECTION
NTS

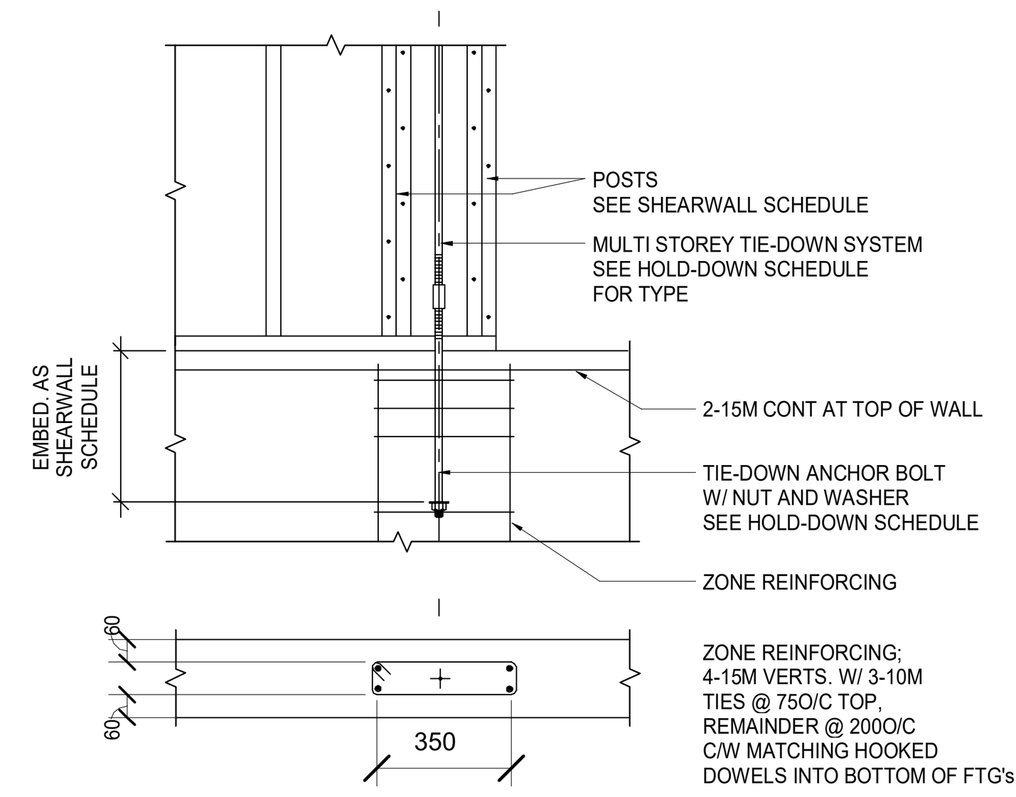


NOTE: ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE IF DRILLING AND GROUTING IS DESIRED, CONSULT THE ENGINEER.

FOR SHEARWALLS WITH HOLD-DOWNS
TYPICAL ANCHOR BOLT
NTS



HOLD-DOWN ANCHOR DETAIL
NTS



TIE-DOWN ANCHOR DETAIL
NTS

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

HEROLD ENGINEERING
3701 Shenton Rd. Nanaimo, BC V9T 2H1
T: 250 751 8558 F: 250 751 8559
E: mail@heroldengineering.com

PROFESSIONAL ENGINEER J. ST. PIERRE 2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
Checker

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin
TYPICAL WOOD FRAME DETAILS

Project No./No. du projet	Sheet/ Feuille	Revision no./ Lа Révision no.
1691-017	S103	2
DATE 2020-01-20		

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PRINTED 25/05/2020 11:33:47 AM

POST LEGEND

UNLABELLED POSTS: TO BE 3 PLY: 2 FULL HEIGHT STUD & 1 CRIPPLE FOR DROPPED BEAMS

LABELLED POSTS

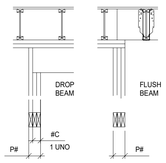
P#

SIZE OF POST (SEE SCHEDULE)

#C

NUMBER OF CRIPPLES (MATCH POST SIZE)

ALL UNLABELLED CRIPPLES ARE 1 PLY



POST SCHEDULE

MARK	SIZE
P1	38x184
P2	38x140
P3	305x305 D.FIR No.1
P4	178x191 SCL
P5	3-38x89

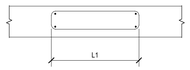
CONCRETE PEDESTAL SCHEDULE

MARK	WIDTH (mm)	LENGTH (mm)	REINFORCING VERT	REINFORCING TIES
CP1	315	315	4-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c
CP2	300	315	4-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c
CP3	300	300	4-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c
CP4	200	273	4-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c
CP5	750 Ø		12-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c
CP6	600 Ø		8-15M	3-10M TIES TOP @ 75 o/c REMAINDER AT 250 o/c

ZONE REINFORCING SCHEDULE

MARK	L1	VERTS	TIES
Z1	350	4-15M	3-10M TIES @ 75 o/c TOP, REMAINDER AT 200 o/c

NOTES: SEE GENERAL NOTES FOR CONCRETE COVER AND VERTICAL BAR SPLICE DIMENSIONS



CONCRETE WALL SCHEDULE

MARK	WIDTH	REINFORCING VERTICAL	REINFORCING HORIZONTAL
CW1	197	15M @ 400 o/c	15M @ 400 o/c
CW2	184	15M @ 400 o/c	15M @ 400 o/c

FOUNDATION SCHEDULE

MARK	SIZE	REINFORCING	MIN FOOTING DEPTH
PF1	1800 x 1800 x 300	6-15M E/W T&B	1200
PF2	1200 x 1200 x 300	4-15M E/W T&B	600
PF3	4000 x 1800 x 300	6-15M T&B LONG, 12-15M T&B SHORT	1200
PF4	900 x 900 x 300	3-15M E/W T&B	600
PF5	600 x 600 x 200	3-15M E/W T&B	600
SF1	400 x 200 DP.	2-15M CONT.	
SF2	1200 x 300 DP.	4-15m T&B LONG, 15M @ 300 o/c T&B TRANS	600

HOLD-DOWN PERFORMANCE SPECIFICATION SCHEDULE

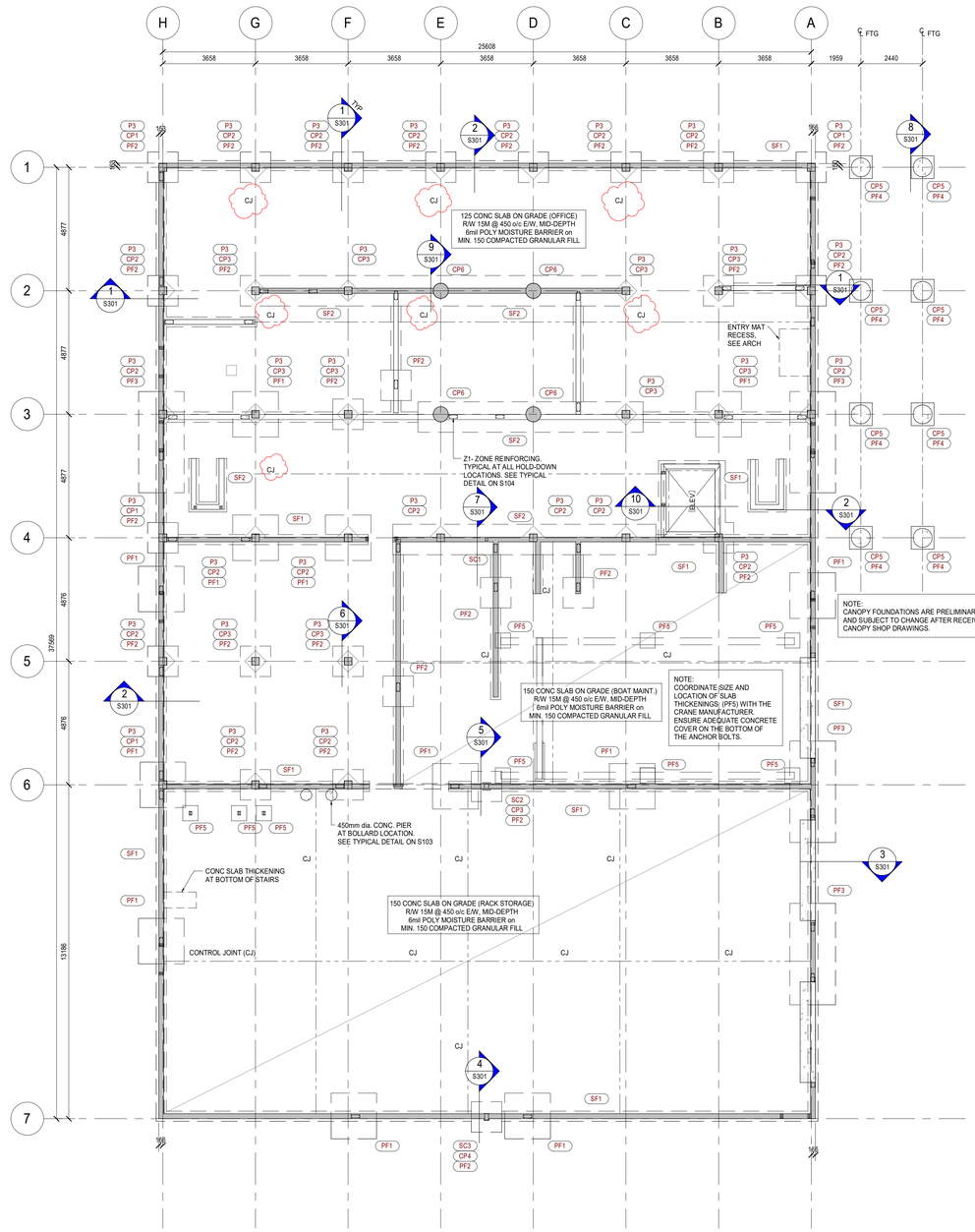
MARK	FACTORED TENSILE RESISTANCE	MAX DEFLECTION OF HOLD-DOWN AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT HOLD-DOWN
HD1	25kN	4.0mm	3-38x89

STEEL COLUMN SCHEDULE

MARK	SIZE
SC1	HSS102x102x9.5
SC2	HSS178x178x9.5
SC3	HSS254x152x16

TIE-DOWN PERFORMANCE SPECIFICATION SCHEDULE

MARK	LEVEL 1 FACTORED TENSILE RESISTANCE	LEVEL 1 MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	LEVEL 2 FACTORED TENSILE RESISTANCE	LEVEL 2 INCREMENTAL BEARING RESISTANCE	LEVEL 2 MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT TIE-DOWN
HD2	80kN	0.5mm				4-38x184 E/S
HD3	100kN	0.5mm	55kN	45kN	0.2mm	5-38x89 E/S or 2-38x184 E/S



FOUNDATION PLAN

1 : 100

NOTE:
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Public Works and Government Services Canada
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REAL PROPERTY SERVICES
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SERVICES IMMOBILIERS
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NORTH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. SAVILIERE 27417 2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-24
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
-

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

FOUNDATION PLAN

1:100

Project No./No. du projet	Sheet/ Feuille	Revision no./ La Révision no.
1691-017 DATE 2020-01-20	**S201**	**2**

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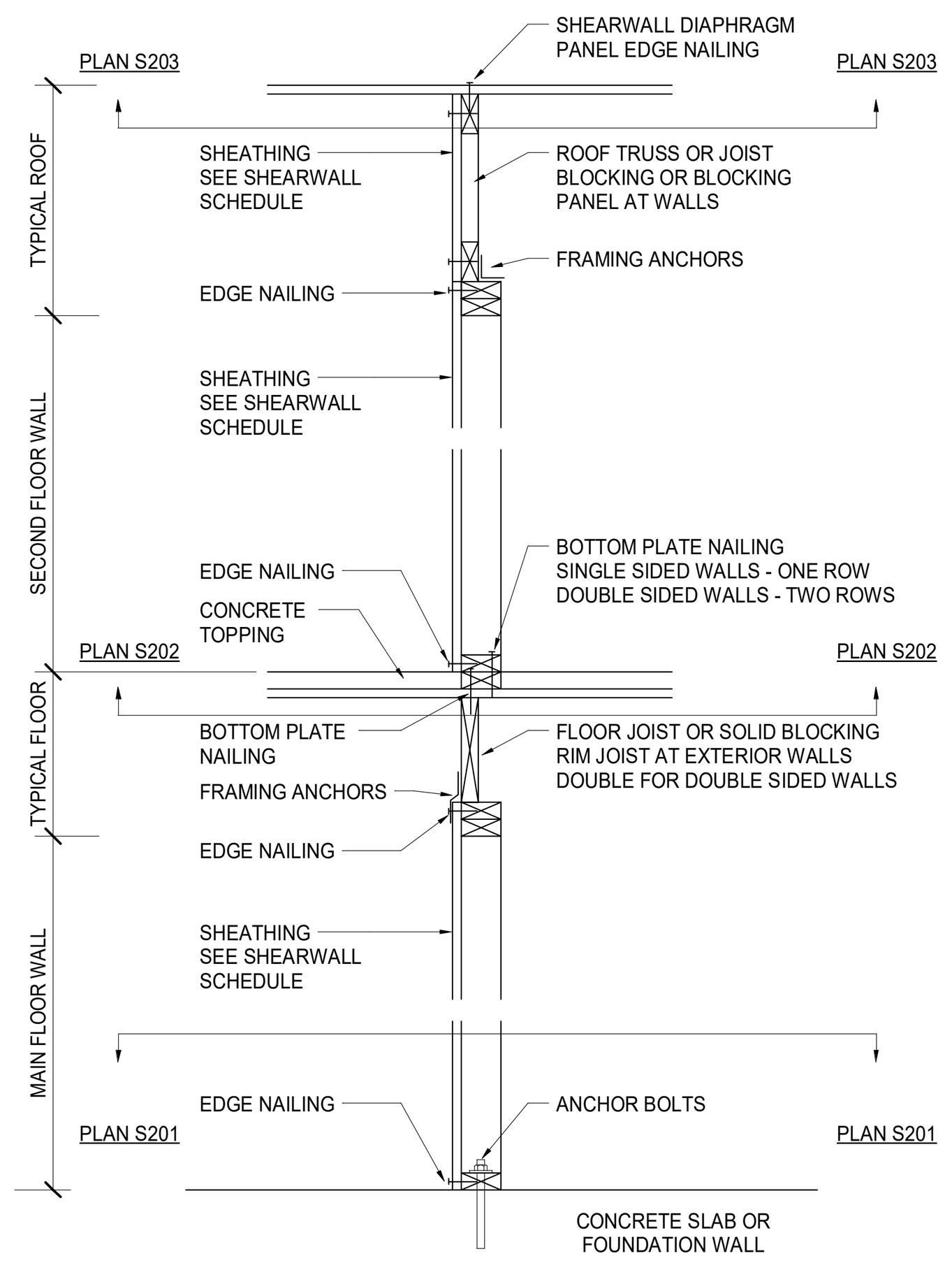


SHEARWALL / BEARING WALL KEY SECTION

NTS

SHEARWALL SCHEDULE						
MARK	PLYWOOD	EDGE NAILS	FRAMING ANCHORS	BOTTOM PLATE NAILING	BOTTOM PLATE ANCHOR BOLTS	REMARKS
SW1	13 PLY TWO SIDED	65 @75 O/C	400 O/C E/S	83 @ 65 O/C 2 ROWS	16Ø @ 600 O/C 200 LONG 125 EMBED	
SW2	13 PLY ONE SIDED	65 @150 O/C	300 O/C	83 @ 150 O/C 2 ROWS	16Ø @ 1200 O/C 200 LONG 125 EMBED	
SW3	13 PLY TWO SIDED	65 @150 O/C	400 O/C E/S	83 @ 75 O/C 2 ROWS	16Ø @ 1200 O/C 200 LONG 125 EMBED	

SHEARWALL SCHEDULE NOTES:
1. STUD SIZE AND SPACING AS NOTED ON PLAN

HOLD-DOWN PERFORMANCE SPECIFICATION SCHEDULE			
MARK	FACTORED TENSILE RESISTANCE	MAX DEFLECTION OF HOLD-DOWN AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT HOLD-DOWN
HD1	25kN	4.0mm	3-38x89

JOIST SCHEDULE	
MARK	TYPE
J1	241 DP I-JOISTS @ 400 o/c

TIE-DOWN PERFORMANCE SPECIFICATION SCHEDULE						
	LEVEL 1		LEVEL 2			
MARK	FACTORED TENSILE RESISTANCE	MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	FACTORED TENSILE RESISTANCE	INCREMENTAL BEARING RESISTANCE	MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT TIE-DOWN
HD2	80kN	0.5mm				4-38x184 E/S
HD3	100kN	0.5mm	55kN	45kN	0.2mm	5-38x89 E/S or 2-38x184 E/S

POST LEGEND

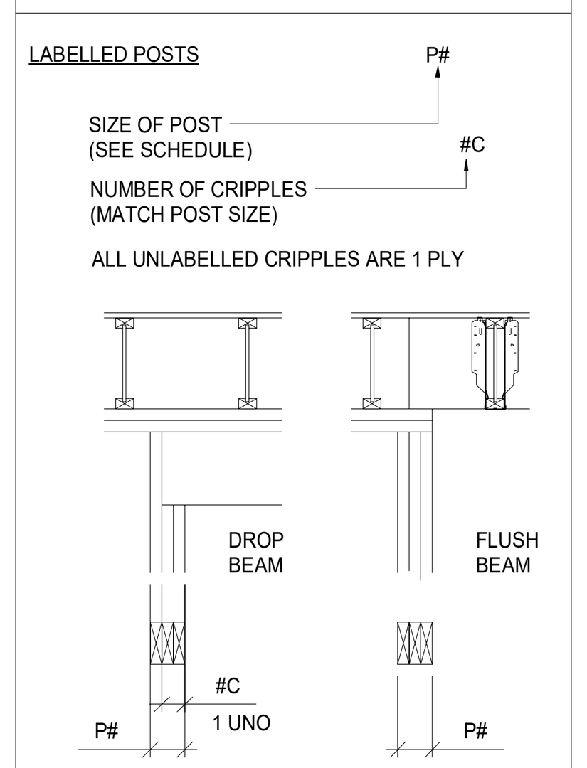
UNLABELLED POSTS: TO BE 3 PLY: 2 FULL HEIGHT STUD & 1 CRIPPLE FOR DROPPED BEAMS

LABELLED POSTS

SIZE OF POST (SEE SCHEDULE)

NUMBER OF CRIPPLES (MATCH POST SIZE)

ALL UNLABELLED CRIPPLES ARE 1 PLY



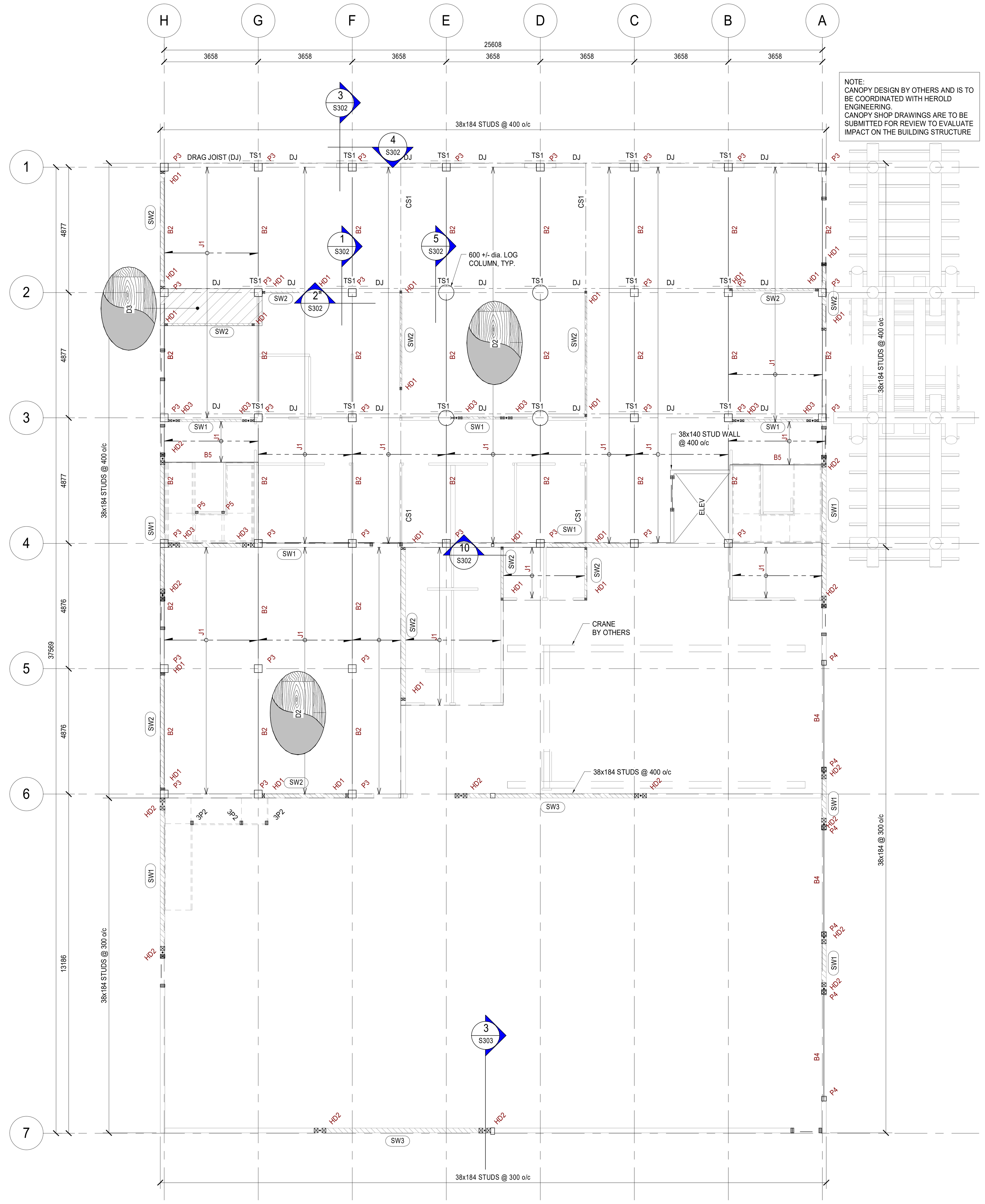
POST SCHEDULE	
MARK	SIZE
P1	38x184
P2	38x140
P3	305x305 D.FIR No.1
P4	178x191 SCL
P5	3-38x89

BEAM SCHEDULE	
MARK	TYPE
B1	2-38x235
B2	305x406 D.FIR No.1
B3	315x418 GLULAM DFir 20f-EX
B4	4-38x184 (ON THE FLAT)
B5	89x241 SCL
B6	133x241 SCL

STRAP SCHEDULE		
MARK	TYPE	LOADING (ULS)
TS1	STRAP TIE	11kN SHORT TERM LOAD
TS2	STRAP TIE	36kN SHORT TERM LOAD
TS3	STRAP TIE	27kN SHORT TERM LOAD
CS1	CONTINUOUS COIL STRAP	11kN SHORT TERM LOAD

PLYWOOD DIAPHRAGM SCHEDULE	
LEVEL	DESCRIPTION
D1	12 PLYWOOD SHEATHING (UNBLOCKED) NAILED TO FRAMING MEMBERS W/ 75 NAILS @ 150 O/C AT PANEL EDGES & 300 O/C OVER INTERMEDIATE FRAMING MEMBERS.
D2	38 CONCRETE TOPPING ON 16 PLYWOOD SHEATHING (UNBLOCKED) TO BE NAILED W/ 75 NAILS @ 150 O/C AT PANEL EDGES AND @ 300 O/C @ INTERMEDIATE FRAMING MEMBERS.
D3	38 CONCRETE TOPPING ON 16 PLYWOOD SHEATHING (FULLY BLOCKED) TO BE NAILED W/ 75 NAILS @ 100 O/C AT PANEL EDGES AND @ 300 O/C @ INTERMEDIATE FRAMING MEMBERS.

NOTES: ROOF DIAPHRAGM NAILING AT SHEARWALLS TO MATCH THAT INDICATED FOR EACH SHEARWALL IN THE "EDGE NAILS" SECTION OF THE SHEARWALL FRAMING SCHEDULE. PLYWOOD SHEATHING FACE GRAIN TO BE LAID PERPENDICULAR TO FRAMING MEMBERS.



SECOND FLOOR FRAMING PLAN

1 : 100

NOTE:
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FRAMING NOTES:
- ALL UNLABELED BEAMS TO BE 3-38x235 SPF No. 1/2
- ALL UNLABELLED POSTS TO BE 3-38x89, 3-38x184 OR 3-38x140
- ALL HOLD DOWNS TO HAVE MINIMUM FULL HEIGHT STUDS AS PER HOLD DOWN SCHEDULE
- DO NOT NOTCH OR CUT STAIR STRINGERS
- DO NOT DRILL, NOTCH OR CUT TJI's EXCEPT AS ALLOWED BY MANUFACTURER
- ALL SHEAR WALLS TO HAVE MINIMUM DOUBLE BOTTOM PLATES
- ALL DISCONTINUOUS WALLS ABOVE PARALLEL TO FRAMING TO HAVE MIN DOUBLE JOIST BELOW
- ALL DISCONTINUOUS WALLS ABOVE PERPENDICULAR TO FRAMING TO BE FULLY BLOCKED TIGHT BETWEEN JOISTS FOR ENTIRE LENGTH AND WIDTH OF WALL ABOVE

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NORTH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. S. VALLIERE #42410
2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
Checker

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

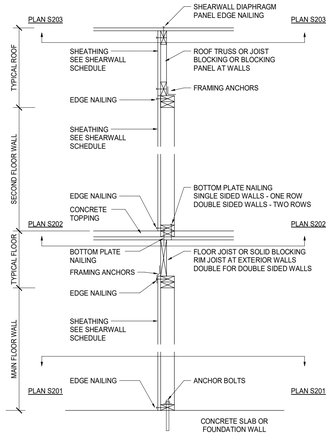
SECOND FLOOR FRAMING PLAN

1:100

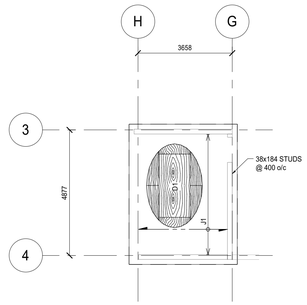
Project No./No. du projet
1691-017
DATE 2020-01-20

Sheet/ Feuille
S202

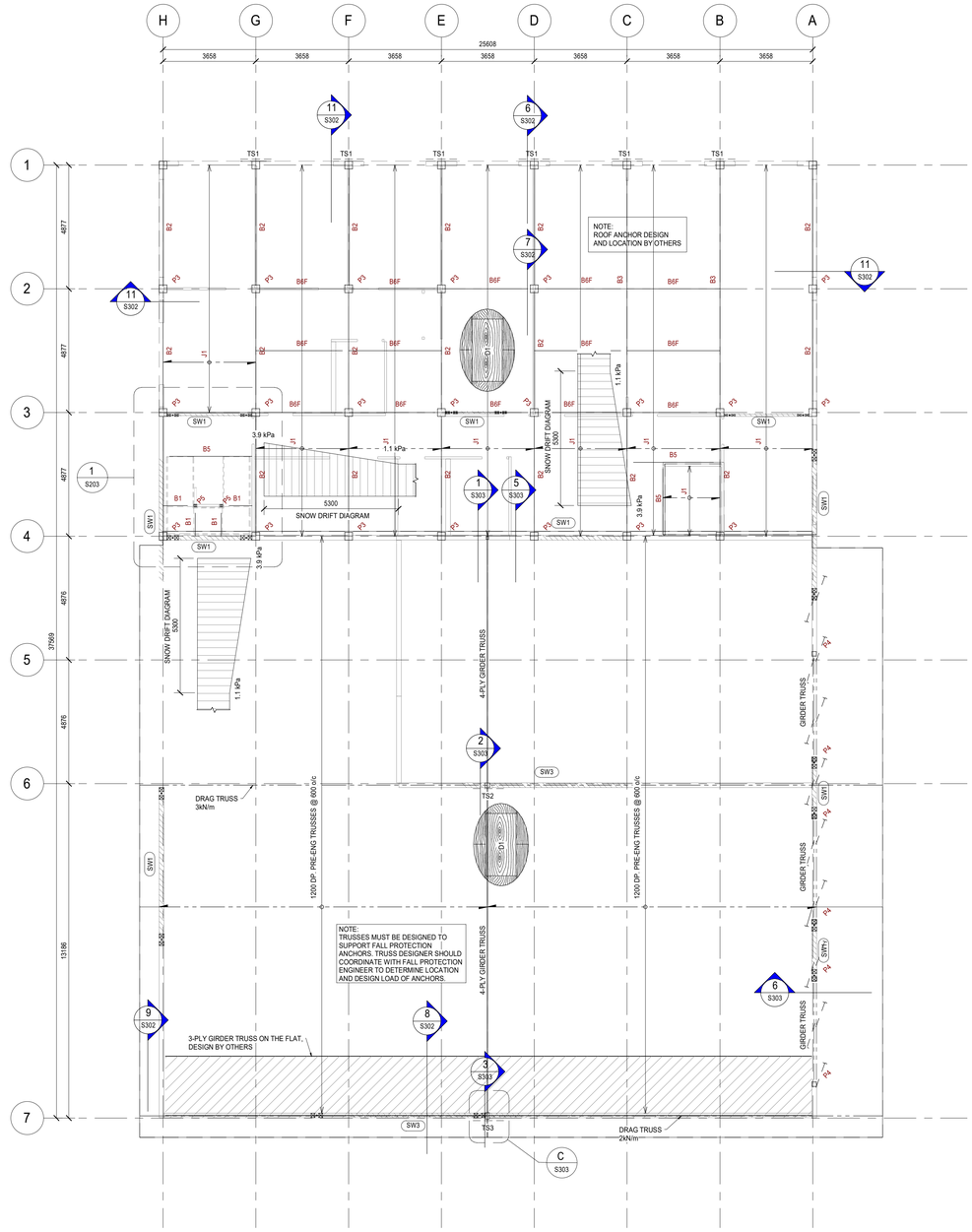
Revision no./ La Révision no.
2



SHEARWALL / BEARING WALL KEY SECTION
NTS



1 S203 PENTHOUSE ROOF FRAMING PLAN
1 : 100



ROOF FRAMING PLAN
1 : 100

NOTE:
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FRAMING NOTES:
- ALL UNLABELED BEAMS TO BE 3-38x235 SPF No. 1/2
- ALL UNLABELLED POSTS TO BE 3-38x89, 3-38x184 OR 3-38x140
- ALL HOLD DOWNS TO HAVE MINIMUM FULL HEIGHT STUDS AS PER HOLD DOWN SCHEDULE
- DO NOT NOTCH OR CUT STAIR STRINGERS
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- ALL SHEAR WALLS TO HAVE MINIMUM DOUBLE BOTTOM PLATES
- ALL DISCONTINUOUS WALLS ABOVE PARALLEL TO FRAMING TO HAVE MIN DOUBLE JOIST BELOW
- ALL DISCONTINUOUS WALLS ABOVE PERPENDICULAR TO FRAMING TO BE FULLY BLOCKED TIGHT BETWEEN JOISTS FOR ENTIRE LENGTH AND WIDTH OF WALL ABOVE

SHEARWALL SCHEDULE

MARK	PLYWOOD	EDGE NAILS	FRAMING ANCHORS	BOTTOM PLATE NAILING	BOTTOM PLATE ANCHOR BOLTS	REMARKS
SW1	13 PLY TWO SIDED	65 @75 O/C	400 O/C E/S	83 @ 65 O/C 2 ROWS	16Ø @ 600 O/C 200 LONG 125 EMBED	
SW2	13 PLY ONE SIDED	65 @150 O/C	300 O/C	83 @ 150 O/C 2 ROWS	16Ø @ 1200 O/C 200 LONG 125 EMBED	
SW3	13 PLY TWO SIDED	65 @150 O/C	400 O/C E/S	83 @ 75 O/C 2 ROWS	16Ø @ 1200 O/C 200 LONG 125 EMBED	

SHEARWALL SCHEDULE NOTES:
1. STUD SIZE AND SPACING AS NOTED ON PLAN

HOLD-DOWN PERFORMANCE SPECIFICATION SCHEDULE

MARK	FACTORED TENSILE RESISTANCE	MAX DEFLECTION OF HOLD-DOWN AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT HOLD-DOWN
HD1	25kN	4.0mm	3-38x89

JOIST SCHEDULE

MARK	TYPE
J1	241 DP I-JOISTS @ 400 o/c

TIE-DOWN PERFORMANCE SPECIFICATION SCHEDULE

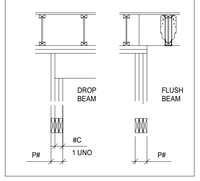
MARK	LEVEL 1 FACTORED TENSILE RESISTANCE	LEVEL 1 MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	LEVEL 2 FACTORED TENSILE RESISTANCE	LEVEL 2 INCREMENTAL BEARING RESISTANCE	LEVEL 2 MAX DEFLECTION OF TAKE-UP DEVICE AT DESIGN LOAD	MIN. FULL-HEIGHT STUDS AT TIE-DOWN
HD2	80kN	0.5mm				4-38x184 E/S
HD3	100kN	0.5mm	55kN	45kN	0.2mm	5-38x89 E/S or 2-38x184 E/S

POST LEGEND

UNLABELLED POSTS: TO BE 3 PLY: 2 FULL HEIGHT STUD & 1 CRIPPLE FOR DROPPED BEAMS

LABELLED POSTS
- P# — SIZE OF POST (SEE SCHEDULE)
- #C — NUMBER OF CRIPPLES (MATCH POST SIZE)

ALL UNLABELLED CRIPPLES ARE 1 PLY



POST SCHEDULE

MARK	SIZE
P1	38x184
P2	38x140
P3	305x305 D.FIR No.1
P4	178x191 SCL
P5	3-38x89

BEAM SCHEDULE

MARK	TYPE
B1	2-38x235
B2	305x406 D.FIR No.1
B3	315x418 GLULAM DFir 20f-EX
B4	4-38x184 (ON THE FLAT)
B5	89x241 SCL
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STRAP SCHEDULE

MARK	TYPE	LOADING (ULS)
TS1	STRAP TIE	11kN SHORT TERM LOAD
TS2	STRAP TIE	36kN SHORT TERM LOAD
TS3	STRAP TIE	27kN SHORT TERM LOAD
CS1	CONTINUOUS COIL STRAP	11kN SHORT TERM LOAD

PLYWOOD DIAPHRAGM SCHEDULE

LEVEL	DESCRIPTION
D1	12 PLYWOOD SHEATHING (UNBLOCKED) NAILED TO FRAMING MEMBERS W/ 75 NAILS @ 150 O/C AT PANEL EDGES & 300 O/C OVER INTERMEDIATE FRAMING MEMBERS.
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NORTH

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. SYLVOLIERE 29410 ENGINEER 2020-05-25

Revision/ Révision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
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PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
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Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
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Drawing title/Titre du dessin

ROOF FRAMING PLAN

1:100

Project No./No. du projet	Sheet/ Feuille	Revision no./ Lo Révision no.
1691-017 DATE 2020-01-20	**S203**	**2**

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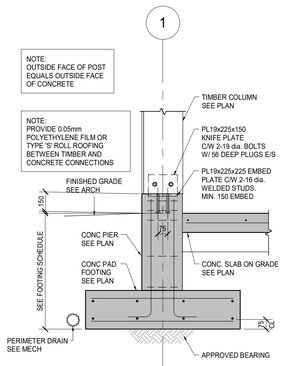

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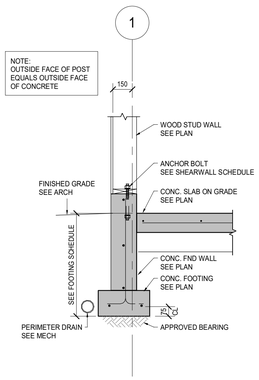

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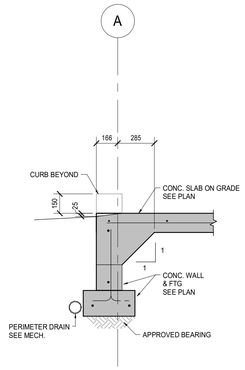

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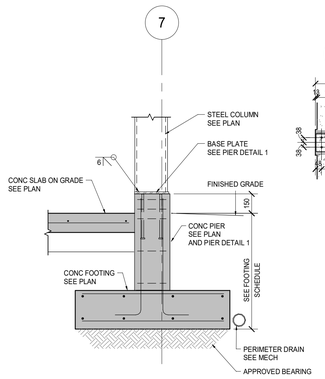

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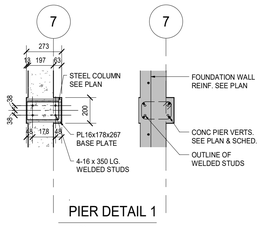

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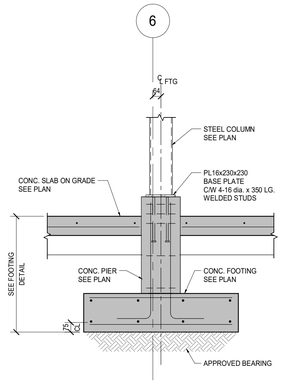

5 SECTION
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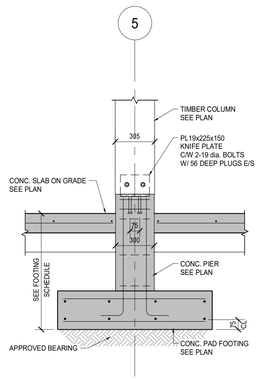

6 SECTION
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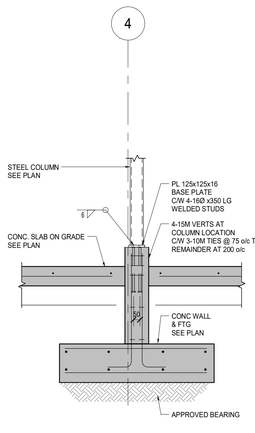
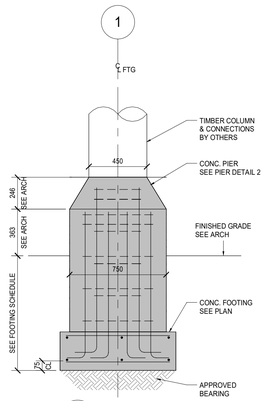
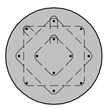


7 SECTION
S201 1 : 20



8 SECTION
S201 1 : 20



PIER DETAIL 2
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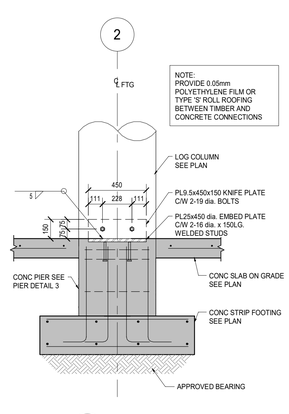
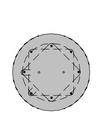


9 SECTION
S201 1 : 20



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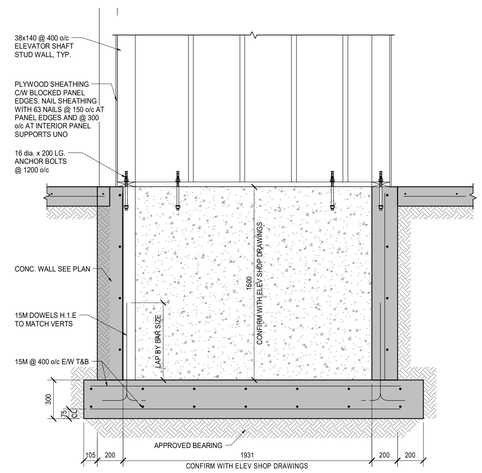

10 SECTION
S201 1 : 20

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. SYLVESTER
26410
ENGINEER
2020-05-25

Revision/ Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
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Client/client

FISHERIES AND OCEANS CANADA - CANADIAN COAST GUARD

Project title/Titre du projet

6270 Jensen Cove Rd
Port Hardy, BC
V0N 2P0

PORT HARDY LOGISTICS DEPOT

Consultant Signature Box Only
Checker

Designed by/Concept par
JV

Drawn by/Dessine par
LHo

PWGSC Project Manager/Administrateur de Projets TPSGC
-

PWGSC, Regional Manager, Architectural and Engineering Services/ Gestionnaire régionale, Services d'architectural et de génie, TPSGC
-

Drawing title/Titre du dessin

DETAILS

Project No./No. du projet	Sheet/ Feuille	Revision no./ Le Révision no.
1691-017 DATE 2020-01-20	**S301**	**2**

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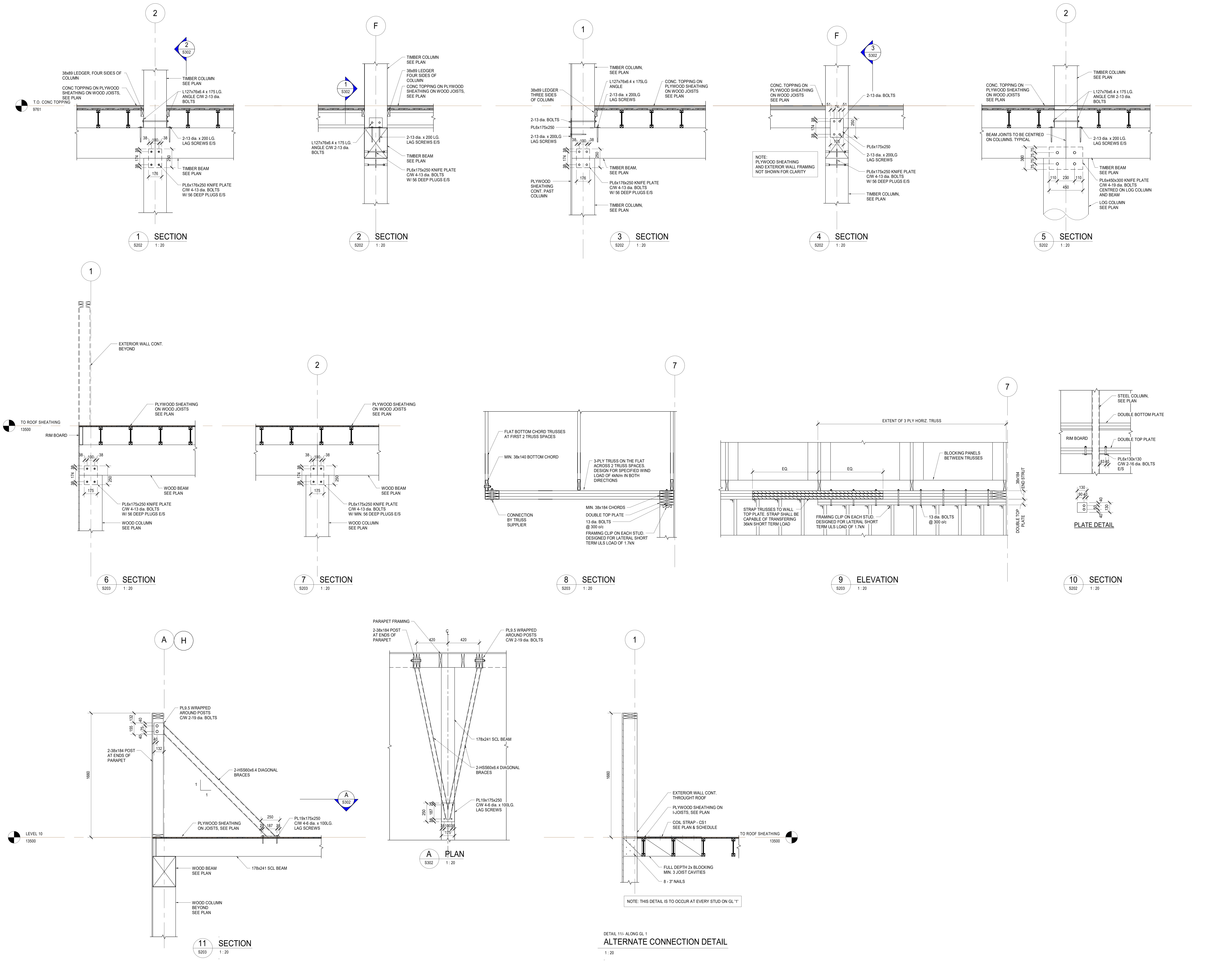

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Region de Pacifique

CHERNOFF THOMPSON ARCHITECTS

HEROLD ENGINEERING

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Revision/Revision	Description/Description	Date/Date
2	ISSUED FOR STRUCTURAL ADDENDUM 1	2020-05-25
1	ISSUED FOR TENDER REV.1	2020-03-26
0	ISSUED FOR TENDER	2020-01-20

Client/client

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DETAILS

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1691-017	S302	2

DATE 2020-01-20

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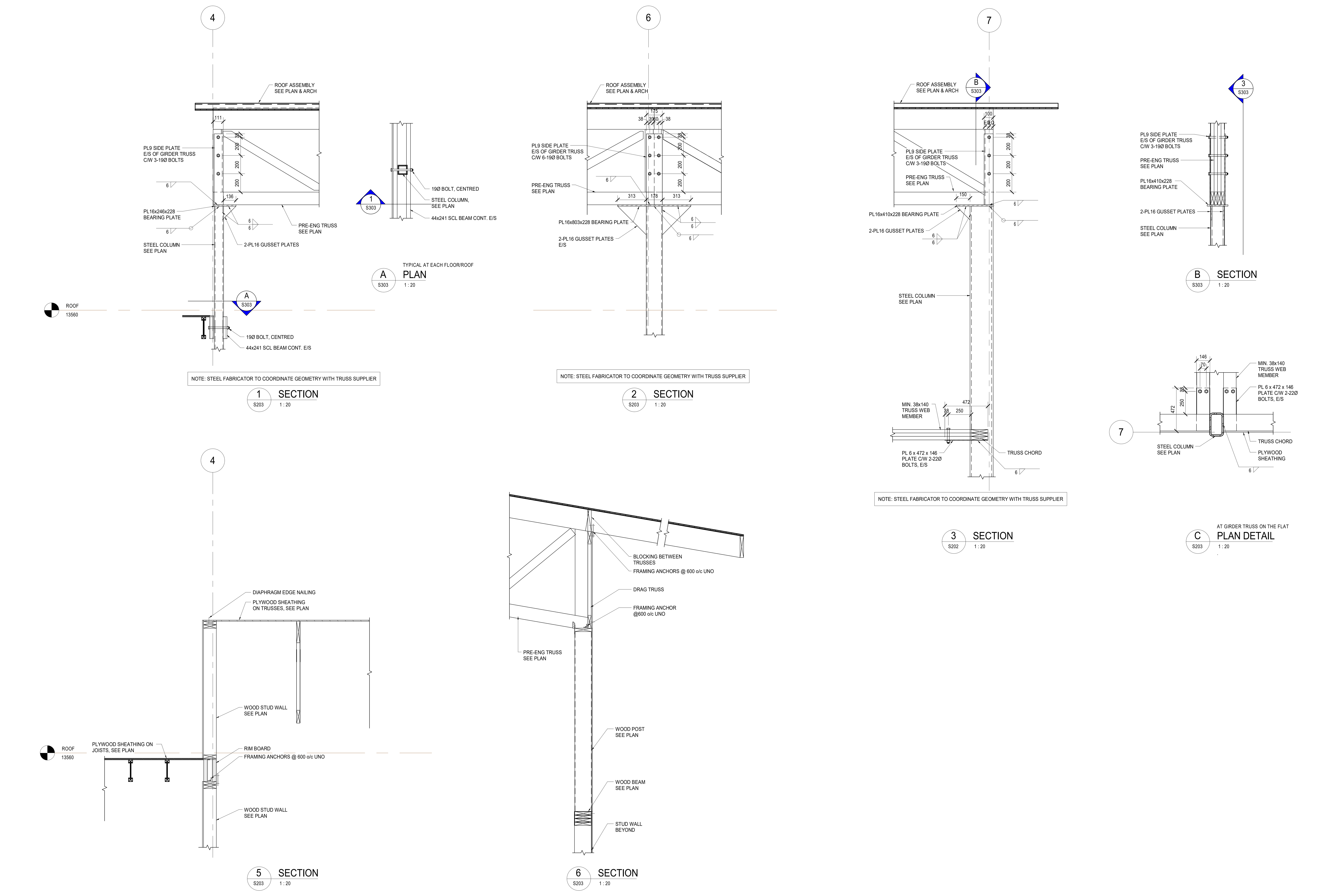

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PROFESSIONAL ENGINEER J. ST. VALLIERE 2020-05-25

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Part 1 General

1.1 RELATED INCLUDES

.1 Diesel water cooled generator system.

1.2 REFERENCES

.1 American Petroleum Institute (API)

.1 API Std. 650, Welded Steel Tanks for Oil Storage 11th Edition.

.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-3.6, Regular Sulphur Diesel Fuel.

.3 Canadian Environmental Protection Act (CEPA)

.1 CCME PN 1326, Environmental Code of Practice for Aboveground and Underground Storage Tank Systems for Petroleum Products and Allied Petroleum Products.

.4 CSA International

.1 CSA-B139, Installation Code for Oil Burning Equipment

.2 CSA 282-09, Emergency electrical power supply for buildings

.5 International Organization for Standardization (ISO)

.1 ISO 3046-1, Reciprocating Internal Combustion Engines - Performance - Part 1: Declarations of Power, Fuel and Lubricating Oil Consumptions, and Test Methods - Additional requirements for engines for general use.

.6 National Electrical Manufacturers Association (NEMA)

.1 NEMA MG 1, Motors and Generators.

.7 Underwriters' Laboratories of Canada (ULC)

.1 CAN/ULC-S601, Standard for Shop Fabricated Steel Aboveground Horizontal Tanks for Flammable and Combustible Liquids.

.2 ULC-S603, Standard for Steel Underground Tanks for Flammable and Combustible Liquids.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Provide manufacturer's printed product literature, specifications and data sheets for power generators and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

□

.1 Submit drawings stamped and signed by professional engineer registered or licensed in British Columbia, Canada, and include:

.1 Seismic anchoring design for overall assembly.

.2 Engine: make and model, with performance curves.

.3 Alternator: make and model.

.4 Voltage regulator: make, model and type.

.5 Automatic transfer switch: make, model and type.

.6 Manual bypass switch: make and model.

.7 Battery: make, type and capacity.

.8 Battery charger: make, type and model.

.9 Alternator control panel: make and type of meters and controls.

.10 Governor type and model.

.11 Automatic engine room ventilation system.

.12 Cooling air requirements in m^3/s.

.13 British standard or DIN rating of engine.

.14 Flow diagrams for:

.1 Diesel fuel.

.2 Cooling air.

.15 Dimensioned drawing showing complete generating set mounted on steel base, including vibration isolators, exhaust system, drip trays, and total weight.

.16 Continuous full load output of set at 0.8 PF lagging.

.17 Description of set operation including:

.1 Automatic starting and transfer to load and back to normal power, including time in seconds from start of cranking until unit reaches rated voltage and frequency.

.2 Manual starting.

.3 Automatic shut down and alarm on:

.1 Overcranking.

.2 Overspeed.

.3 High engine temp.

.4 Low lube oil pressure.

.5 Short circuit.

.6 Alternator over voltage.

.7 Lube oil high temperature.

.8 Over temperature on alternator.

.4 Manual remote emergency stop.

1.4 CLOSEOUT SUBMITTALS

.1 Provide operation and maintenance data for diesel generator for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

□

.2 Submit letter stamped and signed by professional engineer registered or licensed in British Columbia, Canada indicating that the generator's seismic restraints have been installed as per the design provided with the shop drawings.

.3 Include in Operation and Maintenance Manual instructions for particular unit supplied and not general description of units manufactured by supplier and:

.1 Operation and maintenance instructions for engine, alternator, control panel, automatic transfer switch, manual bypass switch, battery charger, battery, fuel system, engine room ventilation system, exhaust system and accessories, to permit effective operation, maintenance and repair.

.2 Technical data:

.1 Illustrated parts lists with parts catalogue numbers.

.2 Schematic diagram of electrical controls.

.3 Flow diagrams for:

.1 Fuel system.

.2 Lubricating oil.

.3 Cooling system.

.4 Certified copy of factory test results.

.5 Maintenance and overhaul instructions and schedules.

.6 Precise details for adjustment and setting of time delay relays or sensing controls which require on site adjustment.

1.5 WARRANTY

.1 For Work of this Section the 12 month warranty is extended to 60 months or 1500 operating hours, whichever occurs first.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Packaging Waste Management: remove for reuse in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.7 MAINTENANCE MATERIAL SUBMITTALS

.1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.

.2 Include:

.1 2 fuel filter replacement elements.

.2 2 lube oil filter replacement elements.

.3 2 air cleaner filter elements.

□

.4 2 sets of fuses for control panel.

.5 Special tools for unit servicing.

Part 2 Products

2.1 SYSTEM DESCRIPTION

.1 Generating system consists of:

.1 Diesel engine.
.2 Alternator.
.3 Alternator control panel.
.4 Automatic transfer equipment.
.5 Battery charger and battery.
.6 Fuel supply system.
.7 Exhaust system.
.8 Steel mounting base.
.9 Manual by-pass switch.
.10 NEMA 3R sound attenuating enclosure.
.11 Load bank

.2 System designed to operate as emergency standby unattended.

2.2 DIESEL ENGINE

.1 Diesel engine: to ISO 3046-1.

.2 Turbo charged, synchronous speed 1800 rpm.

.3 Capacity: 125kW continuous stand-by rated.

.4 Tier 3 EPA emission certified.

.5 Capacity:

.1 Rated continuous power in kW at rated speed, after adjustment for system losses in auxiliary equipment necessary for engine operation; to be calculated as follows: Rated continuous output = Generator kW divided by Generator efficiency at full load.
.2 Engine overload capability 110% of continuous output for 1 hour within 12 hours period of continuous operation.

.6 Cooling System:

.1 Liquid cooled: heavy duty industrial radiator mounted on generating set base with engine driven pusher type fan to direct air through radiator from engine side, with ethylene glycol anti-freeze non-sludging above -46 degrees C.
.2 To maintain manufacturer's recommended engine temperature range at 10% continuous overload in ambient temperature of 40 degrees C.

□

.3 Block heater: thermostatically controlled lube oil or liquid coolant heater connected to line side of automatic transfer switch to allow engine to start in room ambient -10 degrees C.

.1 Switch and fuse in heater circuit, mounted in engine-alternator control cubicle and fed from line side of automatic transfer switch.

.7 Fuel: to CAN/CGSB-3.6, Type A.

.8 Fuel system: solid injection, mechanical fuel transfer pump [with hand primer], fuel filters and air cleaner, fuel rack solenoid energized when engine running.

.9 Governor: mechanical hydraulic with:

.1 Steady state speed band of plus or minus 0.5%.

.2 Speed regulation no load to full load 5% maximum.

.3 Electronic [load sharing] type, electric actuator, speed droop externally adjustable from isochronous to 5%, temperature compensated with steady state speed maintenance capability of plus or minus 0.25%.

.10 Lubrication system:

.1 Pressure lubricated by engine driven pump.

.2 Lube oil filter: replaceable, full flow type, removable without disconnecting piping.

.3 Lube oil cooler.

.4 Engine sump drain valve.

.5 Oil level dip-stick.

.11 Starting system:

.1 Positive shift, gear engaging starter 12 or 24V dc.

.2 Cranking limiter to provide 3 cranking periods of 10s duration, each separated by 5s rest.

.3 Lead acid, 12 or 24V storage battery with sufficient capacity to crank engine for 1 min at -10 degrees C without using more than 25% of ampere hour capacity.

.4 Battery charger : constant voltage, solid state, two stage from trickle charge at standby to boost charge after use.

.1 Regulation: plus or minus 1% output for plus or minus 10% input variation.

.2 Automatic boost for 6 hours every 30 days.

.3 Equipped with dc voltmeter, dc ammeter and on-off switch.

.4 Minimum charger capacity: 7 A.

.12 Vibration isolated engine instrument panel with:

.1 Lube oil pressure gauge

.2 Coolant temperature gauge

.3 Coolant level gauge

.4 Running time meter: non-tamper type

□

.5 Low battery voltage
.6 Charger malfunction
.7 High engine temperature
.8 Low oil pressure
.9 Engine over-speed
.10 Engine over-crank
.11 EPS supplying load
.12 Low water temperature
.13 High engine temperature pre-alarm
.14 Low oil pressure pre-alarm
.15 Low fuel
.16 Unit not in auto
.17 Three position mode switch, repetitive alarm buzzer and silencing switch
.18 Light and alarm press to test

.13 Guards to protect personnel from hot and moving parts.

.1 Locate guards so that normal daily maintenance inspections can be undertaken without their removal.

.14 Drip tray.

2.3 ALTERNATOR

.1 Alternator: to NEMA MG1.

.2 Rating: 3 phase, 120/208 V, 12 wire, 125 kW, 60 Hz, at 0.8 PF.

.3 Output at 40 degrees C ambient:

.1 100% full load continuously.
.2 110% full load for 1 hour.
.3 150% full load for 1 minute.

.4 Revolving field, brushless, single bearing.

.5 Drip proof.

.6 Amortisseur windings.

.7 Synchronous type.

.8 Dynamically balanced rotor permanently aligned to engine by flexible disc coupling.

.9 Exciter: rotating brushless, permanent magnet.

.10 NEMA class H insulation on windings.

□

.11 Alternator: capable of sustaining 300% rated current for period not less than 10s permitting selective tripping of down line protective devices when short circuit occurs.

2.4 CONTROL PANEL

.1 Totally enclosed, microprocessor based, mounted on alternator isolated from propane generator.

.2 Instruments:

.1 Digital 100% solid state circuitry indicating type 2 accuracy, rectangular face, flush panel mounting:

.1 Voltmeter: ac, scale 0 to 300 V.

.2 Ammeter: ac, scale 0 to 500 A.

.3 Wattmeter scale 0 to 200 kW.

.4 Frequency meter: scale 55 to 65Hz.

.5 Able to read and display the following values:

.1 VRMS A

.2 VRMS B

.3 VRMS C

.4 IRMS A

.5 IRMS B

.6 IRMS C

.7 PRMS (W)

.8 QRMS (VAR)

.9 SRMS (VA)

.10 PF

.11 F (HZ)

2.5 CONTROLS

.1 Engine start button.

.2 Selector switch: Off-Auto-Manual - Test full load test no load.

.3 Engine emergency stop button and provision for remote emergency stop button.

.1 Alternator output breaker:

.1 Circuit breaker: bolt-on, moulded case, temperature compensated for 40 degrees C ambient, dual thermal-magnetic trip.

.2 Voltage control rheostat: mounted on inside of control panel.

.3 Operating lights, panel mounted:

.1 "Normal power" pilot light.

.2 "Emergency power" pilot light.

.3 Green pilot lights for breaker on and red pilot lights for breaker off.

□

.4 Solid state indicator lights for alarm with 1 se] manually reset NO/NC contacts wired to terminal block for remote annunciation on:

.1 Low fuel level.

.2 Low battery voltage.

.3 Ventilation failure.

.4 Low coolant temperature.

.5 Solid state controller for automatic shutdown and alarms with [1 set] manually reset NO/NC contacts wired to terminal block for remote annunciation on:

.1 Engine overcrank.

.2 Engine overspeed.

.3 Engine high temperature.

.4 Engine low lube oil pressure.

.5 Short circuit.

.6 AC over voltage.

.6 Lamp test button.

.7 Synchronization and load sharing.

.8 Provision for remote monitoring.

2.6 AUTOMATIC TRANSFER SWITCH

.1 Automatic load transfer equipment to:

.1 Monitor voltage on all phases of normal power supply.

.2 Initiate cranking of stand-by generator unit on normal power failure or abnormal voltage on any one phase below preset adjustable limits for adjustable period of time.

.3 Transfer load from normal supply to stand-by unit when stand-by unit reaches rated frequency and voltage pre-set adjustable limits.

.4 Transfer load from stand-by unit to normal power supply when normal power restored, confirmed by sensing of voltage on all phases above adjustable pre-set limit for adjustable time period.

.5 Shut down stand-by unit after running unloaded to cool down using adjustable time delay relay.

.2 Shall be contractor and breaker type transfer equipment

.1 Two 3 phase contactor mounted on common frame, in double throw arrangement, mechanically and electrically interlocked, with NEMA 1 Enclosure.

.2 100% rated for 120/208 V, 60 Hz, 400 A, 4 wire, solid neutral.

.1 Main contacts: Silver surfaced, protected by arc disruption means.

.3 Switch relay contacts, coils, spring and control elements accessible for inspection and maintenance from front of panel without removal of switch panel or disconnection of drive linkages and power conductors.

.4 Auxiliary contact: to initiate emergency generator start-up on failure of normal power.

□

.5 Fault withstand rating 10kA symmetrical.

.6 Lever to operate switch manually when switch is isolated.

.7 Solid neutral bar, rated: 400 A

.3 ATS Controls

.1 Selector switch

.1 Test position – Normal power failure simulated. Engine starts and transfer takes place. Return switch to “Auto” to stop engine.

.2 Auto position – Normal operation of transfer switch on failure of normal power; retransfers on return of normal voltage and shuts down engine.

.3 Engine start position – Engine starts but unit will not transfer unless normal power supply fails. Switch must be returned to “Auto” to stop engine.

.2 Relays: Continuous duty, industrial control type, with wiping action contacts rated 10 A minimum:

.1 Voltage sensing: 3 phase for normal power and on single phase only for emergency, solid state type, adjustable drop out and pick up.

.2 Time delay: Normal power to standby, adjustable solid state, 5 to 180 seconds.

.3 Time delay on engine starting to override momentary power outages or dips, adjustable solid state, 0 to 60 seconds delay.

.4 Time delay on retransfer from stand-by to normal power, adjustable 5 to 180 seconds.

.5 Time delay for engine cool-off to permit stand-by set to run unloaded after retransfer to normal power, adjustable solid state, 5 seconds intervals to 180 seconds.

.6 Frequency sensing, to prevent transfer from normal power supply until frequency of stand-by unit reaches preset adjustable values.

.3 Solid state electronic neutral position delay timer to ensure motor speeds decay to safe levels prior to introducing new power source.

.4 ATS Accessories

.1 Plant exerciser: 168 H timer to start stand-by unit once each week for selected interval cut does not transfer load from normal supply transfers load to emergency supply and retransfers to normal supply on stand-by unit shutdown. Timer adjustable 0-168 H in 15 minute intervals.

.2 Provide additional contacts for

.1 Generator power available

.2 Utility power available

.3 Provide a minimum of 5 programmable auxiliary contacts and programs as follows:

.1 Load on utility

.2 Load on generators

.3 Failed to switch

□

.4 Spare
.5 Spare

.4 Pilot lights to indicate:
.1 Load on generator
.2 Load on utility
.3 Generator power available
.4 Utility power available
.5 Load energized
.6 Lamp test c/w push-button

.5 Instruments to be digital microprocessor 100% solid state circuitry indicating type 2 accuracy, flush panel mounting:
.1 Voltmeter: AC, scale 0 to 300 V
.2 Ammeter: AC, scale 0 to 500 A
.3 Frequency meter: scale 55-65 Hz
.4 Able to read and display the following values:'
.1 VRMS A
.2 VRMS B
.3 VRMS C
.4 IRMS A
.5 IRMS B
.6 IRMS C
.7 PRMS (W)
.8 QRMS (VAR)
.9 SRMS (VA)
.10 PF
.11 F (HZ)

.5 ATS Equipment Identification

.1 Provide equipment identification
.2 Control panel:
.1 For selector switch and manual switch
.2 For meters, indicating lights, minor controls.

2.7 MANUAL BYPASS SWITCH

.1 Load break bypass and isolation switch: manually operated, double throw, to provide bypass around transfer switch to facilitate maintenance on diesel generator control panel and transfer switch. Switch lockable in bypass position.

2.8 AUTOMATIC LOAD BANK

.1 Automatic variable load bank sized as shown.

.2 Mounted within, or on top of, genset enclosure to minimize required parking area real estate.

□

.3 Load bank controller shall automatically vary generator load for maximum fuel economy.

.1 Load step resolution of 10kW

.4 Integrated air cooling system.

.5 Integrate control power system.

.6 Operator controls accessible from standing position on generator:

.1 Main power on/off switch
.2 Power ON indicator
.3 Blower ON indicator
.4 Blower/Airfail indicator
.5 Blower start/stop push buttons
.6 Master load ON/OFF switch

2.9 STEEL MOUNTING BASE

.1 Complete generating set mounted on structural steel base of sufficient strength and rigidity to protect assembly from stress or strain during transportation, installation and under operating conditions on suitable level surface.

.2 Assembly fitted with seismic isolators to suit code area of operation and control console resiliently mounted. Spring type isolators with adjustable side snubbers and adjustable for levelling.

.3 Sound isolation pads for installation between overall frame and concrete base.

2.10 GENSET ENCLOSURE

.1 Enclosure to be NEMA 3R 11 AWG satin coated steel walls and roof, prepped and factory painted.

.2 Doors with recessed locking handles.

.3 Continuous drip edge run above all door openings on all sides.

.4 Expansion joints: Stainless steel, corrugated of suitable length, to absorb both vertical and horizontal expansion.

.5 Sound rating for enclosure to be 72 DBA @ 7 M or better

2.11 EXHAUST SYSTEM

.1 Heavy duty residential type horizontally mounted exhaust silencer with condensate drain, plug and flanged couplings.

.2 Heavy duty flexible exhaust pipe with flanged couplings as required.

.3 Fittings and accessories as required.

□

.4 Expansion joints: stainless steel, corrugated, of suitable length, to absorb both vertical and horizontal expansion.

2.12 FUEL SYSTEM

.1 Built-in double wall ULC 142 approved fuel tank filled with diesel to run genset for 48 hours at 75% load.

.2 Fuel level gauge and vent alarm.

.3 Drain and end plug.

.4 Shut-off cock.

.5 Renewable cartridge filter.

.6 Fire valve.

.7 Low fuel level alarm for remote indication.

2.13 EQUIPMENT IDENTIFICATION

.1 Provide equipment identification in accordance with Section 26 05 00 - Common Work Results for Electrical.

.2 Control panel:

.1 Size 4 nameplates for controls including alternator breakers and program selector switch.

.2 Size 2 nameplates for meters, alarms, indicating lights and minor controls.

2.14 FABRICATION

.1 Shop assemble generating unit including:

.1 Base.

.2 Engine and radiator.

.3 Alternator.

.4 Control panel.

.5 Battery and charger.

.6 Automatic transfer equipment.

2.15 FINISHES

.1 Apply finishes in accordance with Section 26 05 00 - Common Work Results for Electrical.

.2 Alternator control cubicle: paint inside, exterior to match engine and alternator.

.3 Other ducts and racks grey.

.4 Supply 0.25 L of grey touch-up enamel.

□

2.16 SOURCE QUALITY CONTROL

.1 Factory test generator set including engine, alternator, control panels, transfer switch and accessories. Invite Departmental Representative to witness testing if desired.

.2 Notify Departmental Representative 15 days in advance of date of factory test.

.3 Test procedure:

.1 Prepare blank forms and check sheet with spaces to record data. At top of first sheet record:

.1 Date.

.2 Generator set serial no.

.3 Engine, make, model, serial no.

.4 Alternator, make, model, serial no.

.5 Voltage regulator, make and model.

.6 Rating of generator set, kW, kV.A, V, A, r/min, Hz.

.2 Mark check sheet and record data on forms in duplicate as test proceeds.

.4 Tests:

.1 With 100% rated load, operate set for 23 h, taking readings at 30 min intervals, and record following:

.1 Time of reading.

.2 Running time.

.3 Ambient temp in degrees C.

.4 Lube oil pressure in kPa.

.5 Lube oil temp in degrees C.

.6 Engine coolant temp in degrees C.

.7 Exhaust stack temp in degrees C.

.8 Alternator voltage: phase 1, 2, 3.

.9 Alternator current: phase 1, 2, 3.

.10 Power in kW.

.11 Frequency in Hz.

.12 Power Factor.

.13 Battery charger current in A.

.14 Battery voltage.

.15 Alternator cooling air outlet temp.

.2 At end of 23 hours run increase load to 110% rated value, and take readings every 15 min for 1 hour.

.3 After completion of 24 hours run, demonstrate following shut down devices and alarms:

.1 Overcranking.

.2 Overspeed.

.3 High engine temp.

□

.4 Low lube oil pressure.
.5 Short circuit.
.6 Alternator overvoltage.
.7 Low battery voltage, or no battery charge.
.8 Manual remote emergency stop.
.9 High alternator temperature.

.4 Next install continuous strip chart recorders to record frequency and voltage variations during load switching procedures. Each load change delayed until steady state conditions exist. Switching increments to include:
.1 No load to full load to no load.
.2 No load to 70% load to no load.
.3 No load to 20% load to no load.
.4 20% load to 40% load to no load.
.5 40% load to 60% load to no load.
.6 60% load to 80% load to no load.

.5 Demonstrate:
.1 Automatic starting of set and automatic transfer of load on failure of normal power.
.2 Operation of manual bypass switch.
.3 Automatic shut down of engine on resumption of normal power.
.4 That battery charger reverts to high rate charge after cranking.

.6 Demonstrate low oil pressure and high engine temperature shutdown devices operation without subjecting engine to these excesses.

Part 3 Execution

3.1 INSTALLATION

.1 Locate generating unit and install as indicated.

.2 Install fuel supply system as indicated in CSA-B139.

.3 Install ventilating air duct system as indicated.

.4 Pipe muffler drains to nearest floor drain.

.5 Complete wiring and interconnections as indicated.

.6 Start generating set and test to ensure correct performance of components.

3.2 FIELD QUALITY CONTROL

.1 Entire system to be supplied and tested to CSA-282 requirements including use of temporary load banks as required.

□

.2 Perform tests in accordance with Section 26 05 01 - Common Work Results - Electrical.

.3 Notify Departmental Representative 10 working days in advance of test date.

.4 Provide fuel for testing and leave full tanks on acceptance.

.5 Demonstrate:

.1 Unit start, transfer to load, retransfer to normal power, unit shut down, on "Automatic" control.

.2 Unit start and shut down on "Manual" control

.3 Unit start and transfer on "Test" control.

.4 Unit start on "Engine start" control.

.5 Operation of manual bypass switch.

.6 Operation of automatic alarms and shut down devices.

.6 Run unit on load for minimum period of 4 hours to show load carrying ability, stability of voltage and frequency, and satisfactory performance of dampers in ventilating system to provide adequate engine cooling.

.7 At end of test run, check battery voltage to demonstrate battery charger has returned battery to fully charged state.

3.3 MAINTENANCE - CLEARANCES

.1 Provide clearance around systems, equipment and components for observation of operation, inspection, servicing, maintenance and as recommended by manufacturer and CSA-B139.

END OF SECTION

□

ADDENDUM #2

Date: May 25, 2020

PACIFIC REGION
PORT HARDY LOGISTICS DEPOT
PORT HARDY, B.C.
Project No: 8H500

The following revisions supersede the information contained in the original drawings and specification issued for the above named project, and shall become part thereof. No consideration will be allowed for extras due to the contractor or any subcontractor not being familiar with this Addendum.

END ADDENDUM #2