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Travaux publics et Services gouvernementaux
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401 - 1230 Government Street
Victoria, B.C.
V8W 3X4
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INVITATION TO TENDER
APPEL D'OFFRES

**Tender To: Public Works and Government Services
Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Soumission aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Public Works and Government Services Canada -
Pacific Region
401 - 1230 Government Street
Victoria, B. C.
V8W 3X4

Title - Sujet TIMBER FLOATS	
Solicitation No. - N° de l'invitation F1571-155012/A	Date 2015-06-09
Client Reference No. - N° de référence du client F1571-155012	GETS Ref. No. - N° de réf. de SEAG PW-\$XLV-166-6748
File No. - N° de dossier XLV-5-38043 (166)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-07-20	
Time Zone Fuseau horaire Pacific Daylight Saving Time PDT	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Castle, David G.	Buyer Id - Id de l'acheteur xlv166
Telephone No. - N° de téléphone (250) 363-0110 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: FISHERIES AND OCEANS CANADA SEE HEREIN	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

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Solicitation No. - N° de l'invitation

F1571-155012/A

Client Ref. No. - N° de réf. du client

F1571-155012

Amd. No. - N° de la modif.

File No. - N° du dossier

XLV-5-38043

Buyer ID - Id de l'acheteur

xlvl66

CCC No./N° CCC - FMS No/ N° VME

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KITAMAAT AND PORT EDWARD FLOAT MODULE PROCUREMENT STATEMENT OF WORK

FISHERIES AND OCEANS CANADA
SMALL CRAFT HARBOURS – PACIFIC REGION

200 – 401 Burrard Street
Vancouver, British Columbia
V6C 3S4

Departmental Contact

Shaun Loader – Project Engineer
Small Craft Harbours – Pacific Region
Shaun.Loader@dfo-mpo.gc.ca
604-351-8847



Pêches et Océans
Canada

Fisheries and Oceans
Canada

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Drawing Number	Drawings Title	No. of Pages
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FM9-ST-001	2.742m WIDE STANDARD FLOAT MODULE	1
FM9-ST-002	2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY	1
FM9-ST-003	2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY	1
FM9-END-200	2.742m WIDE FLOAT MODULE 2005 REVISION	1
FM9-END-201	WIDE FLOAT MODULE 2005 REVISION	1



Section 00 10 00 – Schedule of Quantities and Prices

NOTE: SEE APPENDIX B OF ITT

END OF SECTION



Section 01 11 00 – Summary of Work

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 48 00 – BUOYANCY BILLETS
- .2 Section 02 50 00 – TIMBER FLOATS
- .3 Section 05 90 00 – STEEL HARDWARE.

1.2 DEFINITIONS

- .1 Throughout contract documents, the words “Owner,” “Contracting Authority,” “Harbour Authority,” “Contractor,” “Engineer,” or “Department,” shall be defined as follows:
 - .1 Owner and Contracting Authority
Small Craft Harbours Program of the Department of Fisheries and Oceans,
200-401 Burrard Street Vancouver B.C. V6C 3S4
 - .2 Engineer/Departmental Representative
An employee of the Owner or Engineer assigned by the Owner as the Engineer for this project, or the Engineer’s representative assigned by the Engineer as his representative for the project.
 - .3 Contractor
The party accepted by the Owner with whom a formal contract is entered to complete the work of this project.
 - .4 Department
The Department of Fisheries and Oceans, Canada.

1.3 DRAWINGS

- .1 FM9-ST-000: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .2 FM9-ST-001: 2.742m WIDE STANDARD FLOAT MODULE
- .3 FM9-ST-002: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .4 FM9-ST-003: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .5 FM9-END-200: 2.742m WIDE FLOAT MODULE 2005 REVISION
- .6 FM9-END-201: 2.742m WIDE FLOAT MODULE 2005 REVISION

1.4 LOCATION

- .1 The Kitamaat Village Small Craft Harbour is located on the central coast of British Columbia in the Kitimat Arm of the Douglas channel. Kitamaat harbour is a Class “C” harbour located just outside of Kitimat, BC.

1.5 WORK COVERED BY CONTRACT DOCUMENTS



- .1 Work covered in this section comprises of the supply and fabrication of timber float modules and materials, assembly and delivery to Kitamaat Harbour (the Project Site), British Columbia.
- .2 Delivery of work shall be no later than September 30, 2015.
- .3 All materials shall be supplied by the contractor and is responsible for obtaining all materials necessary for assembly.
- .4 Contractor is responsible for successful delivery of assembled floats to the Project Site and that no delays to the project or costs to the Owner are incurred in the process.
- .5 The work generally consists of, but is not limited to the following, as itemized in the Section 00 10 00 - SCHEDULE OF QUANTITIES AND PRICES.

1.6 KITAMAAT HARBOUR FLOATS

.1 FLOAT A

.1 *Supply and Fabrication*

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .2 Fabrication and supply of one complete set of 9 foot wide float ends
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS REQUIREMENTS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-END-200 REV D
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.



- .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 Float Module Assembly

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 6 standard 2.74m wide timber float modules complete With 2 end modules as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS .
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .5 Paint “A” in white on each end.

.2 FLOAT B

.1 Supply and Fabrication

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled “TIMBER MEMBERS” & “HARDWARE REQUIREMENTS” on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .2 Fabrication and supply of one complete set of 9 foot wide float ends
 - .1 This item includes the supply of all items listed in the tables labelled “TIMBER MEMBERS REQUIREMENTS” & “HARDWARE REQUIREMENTS” on drawing:
FM9-END-200 REV D



- .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
- .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 Float Module Assembly

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 7 standard 2.74m wide timber float modules complete with 1 end module as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS.
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .5 Paint “B” in white on each end.

.3 FLOAT C

.1 Supply and Fabrication

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled “TIMBER MEMBERS” & “HARDWARE REQUIREMENTS” on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .2 Fabrication and supply of one complete set of 9 foot wide float ends



- .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS REQUIREMENTS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-END-200 REV D
- .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
- .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 Float Module Assembly

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 5 standard 2.74m wide timber float modules complete with 1 end module as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS.
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .5 Paint "C" in white on each end.

.4 FLOAT D

.1 Supply and Fabrication

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.



- .2 Decking and nails are to be bundled individually and securely fastened to the float.

- .2 Fabrication and supply of one complete set of 9 foot wide float ends
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS REQUIREMENTS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-END-200 REV D
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing.
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 Float Module Assembly

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 5 standard 2.74m wide timber float modules complete with 1 end module as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS.
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .5 Paint "D" in white on each end.

.5 FLOAT DELIVERY

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Delivery of Floats to the Kitamaat Harbour
- .2 Attachment of floats to the existing offshore floating breakwater.
- .3 Secure floats and all other materials including decking to float modules.
- .4 The contractor shall give the Departmental Representative at least two weeks' notice before the delivery of the modules to site.

1.7 PORT EDWARD HARBOUR FLOATS

.1 FLOAT A



.1 Supply and Fabrication

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .2 Fabrication and supply of one complete set of 9 foot wide float ends
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS REQUIREMENTS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-END-200 REV D
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 Float Module Assembly

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 2 standard 2.74m wide timber float modules complete With 2 end modules as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS .
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.



.2 **FLOAT B**

.1 ***Supply and Fabrication***

The work to be carried out under this item includes all labour, materials and equipment for the supply of timber float modules and the assembly into a complete float. The work generally consists of, but is not limited to the following:

- .1 Fabrication and supply of a 9 foot wide float module
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-ST-000 REV F
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.
- .2 Fabrication and supply of one complete set of 9 foot wide float ends
 - .1 This item includes the supply of all items listed in the tables labelled "TIMBER MEMBERS REQUIREMENTS" & "HARDWARE REQUIREMENTS" on drawing:
FM9-END-200 REV D
 - .2 This item includes the supply of hardware and nails (above and beyond those specified in the drawing).
 - .3 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.
 - .2 Decking and nails are to be bundled individually and securely fastened to the float.

.2 ***Float Module Assembly***

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Assembly of 2 standard 2.74m wide timber float modules complete With 2 end modules as identified in the Drawings.
- .2 Contractor to supply all necessary hardware as per Section 05 90 00 – STEEL HARDWARE.
- .3 All field cuts and treatment as per Section 02 50 00 – TIMBER FLOATS .
- .4 Decking and nails.
 - .1 Deking not to be nailed down as detailed on drawings.



- .2 Decking and nails are to be bundled individually and securely fastened to the float.

.3 **FLOAT DELIVERY**

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Delivery of Floats to the Port Edward Harbour
- .2 Attachment of floats to existing floats as directed by the Departmental Representative.
- .3 Secure floats and all other materials including decking to float modules.
- .4 The contractor shall give the Departmental Representative at least two weeks' notice before the delivery of the modules to site.

1.8 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings, Specifications and any Addenda.
 - .2 Change Orders and other Modifications to Contract.
 - .3 Copy of Approved Work Schedule.
 - .4 Health and Safety Plan and Other Safety Related Documents.
 - .5 All regulatory permits required for the work
 - .6 Associated Best Management Practices documentation.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION



Section 02 48 00 – Buoyancy Billets

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 50 00 – TIMBER FLOATS

1.2 REFERENCE DRAWINGS

- .1 FM9-ST-000: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .2 FM9-ST-001: 2.742m WIDE STANDARD FLOAT MODULE
- .3 FM9-ST-002: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .4 FM9-ST-003: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .5 FM9-END-200: 2.742m WIDE FLOAT MODULE 2005 REVISION
- .6 FM9-END-201: 2.742m WIDE FLOAT MODULE 2005 REVISION

Part 2 Products

2.1 GENERAL

- .1 The dimensions of the finished coated billets will be as diagrammed. It is the contractor's responsibility to ensure that the finished billets will fit into the frame of the float without damage.
- .2 The buoyancy billets shall be secured to the float frame members with nylon banding or plastic strapping.
- .3 The billets of the floats will be coated with polyurea as specified in this section.
- .4 Buoyancy billets will not be accepted if damaged in any manner in handling. Field repair of polyurea coating may be acceptable, subject to written approval by the Engineer.

2.2 PHYSICAL PROPERTIES

- .1 The materials will meet or exceed the following standards:



PROPERTY	POLYSTYRENE	POLYUREA
Compressive Strength at 10" deformation (minimum):	76kPa	N/A
Tear Strength: (minimum)	N/A	30KN/m
Flexural Strength (minimum):	124 kPa	N/A
Water Absorption By volume (maximum):	6%	0%
Density (minimum):	16 kg/m ³	1100kg/m ³

2.3 POLYSTYRENE

- .1 The expanded polystyrene will be a uniform cellular structure free of voids resulting from unexpanded components or any other causes. If a beaded product is to be used, the beads will be fused so that when the product is broken by hand pressure, there is an excess of broken or sheared beads.
- .2 The billets to be built-up to correct vertical depth using thinner layers, providing the bonding method is approved by the Engineer. No vertical joints will be permitted within the billet. Before coating the polystyrene billets will be cured to minimize moisture content.
- .3 Polystyrene will contain 100% virgin bead (no reground material is permitted).

2.4 POLYUREA COATING

- .1 The polystyrene billets will be sprayed to provide a minimum 2mm polyurea coating thoroughly bonded to the polystyrene billets and applied under dry conditions to ensure even application and bonding. The coating will be uniform with an even surface, self-extinguishing, and impervious to gasoline and oil. Any break or separation in the coating will be cause for rejection.

2.5 TESTING

- .1 Upon notification of acceptance of tender, the Contractor will submit to the Engineer a 100 x 150-x 600 mm sample of his method of bonding the materials.



Part 3 Execution

3.1 HANDLING OF MATERIALS

- .1 Buoyancy billets will not be accepted if damaged in any manner in handling. This includes damage from strapping and slings.
- .2 Field repair of the polyurea coating may be acceptable, subject to written approval by the Engineer.

END OF SECTION



Section 02 50 00 – Timber Floats

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 48 00 – BUOYANCY BILLETS

1.2 REFERENCE DRAWINGS

- .1 FM9-ST-000: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .2 FM9-ST-001: 2.742m WIDE STANDARD FLOAT MODULE
- .3 FM9-ST-002: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .4 FM9-ST-003: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .5 FM9-END-200: 2.742m WIDE FLOAT MODULE 2005 REVISION
- .6 FM9-END-201: 2.742m WIDE FLOAT MODULE 2005 REVISION

Part 2 Products

2.1 GENERAL

- .1 Except as otherwise noted, only new materials will be used in, and remain an integral part of the structures.
- .2 The Engineer may inspect materials and products at all stages of manufacture and transportation to the Project Site. Satisfactory inspection at any stage does not preclude future rejection if the materials or products are subsequently found to lack uniformity or fail to conform to the requirements specified.
- .3 Acceptance will not be made until the materials or products are satisfactorily installed in the completed structures specified.
- .4 The Contractor shall be responsible to repair all materials damaged through their handling, storage and/or installation.
- .5 Except as otherwise noted, salvaged materials deemed to be reusable by the Owner shall remain property of the Owner.

2.2 TIMBER

- .1 All timber for the purpose intended shall conform to the requirements of the N.L.G.A. Standard Grading Rules for Canadian Lumber.



- .2 Refer to drawings and specifications for timber dimensions and treatment.
- .3 All timber shall be Coast Douglas Fir. No 1 Structural Grade or better, unless specified otherwise.
- .4 All decking shall be S1S2E (rough cut), heart side down.
- .5 All joists, cross-ties, stringers, blocking, bullrail, risers and fascia boards shall be S2E (rough cut)
- .6 Timber will be graded in the following classes:
 - .1 Joists and Planks
 - .2 Beams and Stringers
 - .3 Posts and Timbers
- .7 All timber shall be free of heart centre with no sap.
- .8 All treated timber shall be S4S precut and bored, to specified dimensions, before treating.
- .9 Rubboards and all timber at or above deck level shall be salt-treated. All timber below deck level, except rub boards, shall be creosote treated.
- .10 All decking lumber shall be surfaced lumber meeting grading S1S2E, Surfaced on the heart side and two edges, heart side down.

2.3 TREATMENT OF MATERIAL

- .1 Creosote-treated Materials:
 - .1 All creosote treated timber will be treated in accordance with CSA 080 and will follow the Best Management Practices for Creosote as outlined in "Best Management Practices for the use of Treated Wood in Aquatic Environments".
 - .2 All creosote treated materials will have a minimum retention of 225kg per cubic metre (14lb. Per cubic foot).
- .2 Salt-treated Materials:
 - .1 All salt-treated timber to be treated in accordance with CSA 080-1989, "Wood Preservation", and its current amendments CSA 080.14, for materials in contact with ground or water. (Only non-leachable ACA salts will be accepted).
 - .2 All salt treatment will follow the Best Management Practices for ACA and ACZA as outlines in "Best Management Practices for the use of Treated Wood in Aquatic Environments".
 - .3 All salt-treated timber will have a minimum retention of 6.4 kg/m³ (0.40 lb. Per cubic foot) and a depth of penetration of 10mm as specified in CSA 080.14.
- .3 Testing:



- .1 The Engineer will carry out testing of materials including core sampling at the treatment plant. Data will be made available to the Contractor for information only.
- .2 Notwithstanding the Engineer's testing program, the Contractor will ensure the materials meet the specified requirements in all respects. The Engineer reserves the right to reject materials on site.

2.4 FIELD TREATING

- .1 Creosote-treated timber members that have fresh cut surfaces exposed in the structure shall be treated as specified:
 - .1 All cuts or breaks in the surfaces shall be treated with two (2) separate coats of creosote oil.
 - .2 Where bolt holes must be bored through creosote treated piles, the holes shall be filled with creosote oil and the bolts shall be dipped in hot creosote oil before bolts are placed.
 - .3 Alternative field wood treatment to be approved by the Engineer before application.
 - .4 Ensure preservatives are properly stored and protected in case of spillage.
- .2 Salt-treated timber members that have fresh cut surfaces exposed in the structure shall be treated as specified:
 - .1 All field cut surfaces to be treated with two (2) coats of Copper Naphthenate.
 - .2 When field treating by brushing, spraying, dipping or soaking do so in such a manner that the preservative does not drip into the water or onto the ground.
- .3 Ensure preservatives are properly stored and protected in case of spillage.

2.5 FABRICATION

- .1 All treated timber shall be precut, counterbored, notched and bored, to specific dimensions, before treating.
- .2 Holes will be drilled vertically to match up with other bolt holes. Timbers are to be template drilled so that one timber is interchangeable with any other timber (i.e. stringers with stringers or flanges with flanges).
- .3 Mark using an impression stamp on all creosote pieces with the first initial(s) on one end of the timber.(ie Stringer "S"), along with an arrow (or triangle) indicating the up orientation.

2.6 BOUYANCY BILLETS

- .1 Five (5) billets are required per float module. Refer to Section 02 48 00 – BUOYANCY BILLETS for billet material specifications.

2.7 STEEL HARDWARE



- .1 Contractor will supply all hardware or nails with modules.

Part 3 Execution

3.1 HANDLING OF MATERIALS

- .1 Treated material will not be accepted if damaged in any manner in handling, including damage from strapping or slings.
- .2 The Contractor shall be responsible to repair or replace all materials damaged by handling, storage and/or installation of materials.

3.2 EXISTING STRUCTURES

- .1 Any structures damaged by the Contractor during the works shall be repairs and made good at the Contractor's expense to the satisfaction of the Engineer.

3.3 SHIPPING AND PACKAGING

- .1 Bundle includes all ACZA and Creosote material for float.
- .2 Float modules will be assembled, delivered and secured to the Catamaran at the Kitamaat Harbour
- .3 Bundle decking and rub boards with two modules per bundle. The contractor shall supply twenty-eight (28) pieces of decking for each module.

END OF SECTION



Section 05 90 00 – Steel Hardware

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 02 48 00 – BUOYANCY BILLETS
- .2 Section 02 50 00 – TIMBER FLOATS

1.2 REFERENCE DRAWINGS

- .1 FM9-ST-000: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .2 FM9-ST-001: 2.742m WIDE STANDARD FLOAT MODULE
- .3 FM9-ST-002: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .4 FM9-ST-003: 2.742m WIDE STANDARD FLOAT MODULE ASSEMBLY
- .5 FM9-END-200: 2.742m WIDE FLOAT MODULE 2005 REVISION
- .6 FM9-END-201: 2.742m WIDE FLOAT MODULE 2005 REVISION

Part 2 Products

2.1 STEEL

- .1 Small fastenings will conform to the standard for Wire Nails, Spikes, and Staples, Canadian Standards Association (CSA) B-111-1974.
- .2 Drift bolts, machine bolts, washers, and miscellaneous iron will conform to the standard for General Purpose Structural Steel of the CAN3-G40.21-M81.
- .3 Items manufactured or fabricated from scrap steel of unknown chemical or physical properties are not acceptable.
- .4 All bolts will be of the full dimension specified or shown on the plan. Unless otherwise specified, all machine bolts will be provided with steel DPW washers under head and nut. The steel DPW washers shall be round unless specified square.
- .5 All bolts shall be 19mm (3/4") National course thread, unless shown otherwise.(NIC)
- .6 Holes for machine bolts will be bored to provide a driving fit.

2.2 HARDWARE



- .1 All hardware including bolts, drift bolts, carriage bolts, lag bolts, pipe sleeves, nuts and washers etc. will be hot dipped galvanized in accordance with the ASTM A153. Galvanize to 610g/m² (2oz/ft²).
- .2 All bolts will be of the full dimension specified or shown on the plan.
- .3 Unless otherwise specified, all machine bolts will be provided with round steel plate washers under head and nut.
- .4 All bolts shall be 19mm (3/4") National course thread, unless shown otherwise.
- .5 All 19mm washers shall be 6mm thick and 75mm diameter galvanized steel.
- .6 All 25mm washers shall be a minimum of 8mm thick and 100mm diameter galvanized steel.
- .7 All bolts to have 100mm (4") of thread unless shown otherwise.

Part 3 Execution

3.1 ASSEMBLY

- .1 All bolts shall be tightened to 100 Newton Meters (80 ft/lbs).
- .2 Care shall be taken not to damage the treated wood finish. All treatment damaged by the Contractor shall be repaired at the Contractor's expense as per Section 00 99 00 Timber Repairs.
- .3 Pre-drilling:
 - .1 All ends of timbers not fastened by bolts shall be predrilled prior to installation to prevent splitting.
- .4 Holes for machine bolts will be bored to provide a driving fit.

3.2 DECKING

- .1 Decking will be delivered to site in a bundle.

3.3 FASCIA

- .1 Secure each contact point with 2 – 100mm galvanized RDOX nails.
- .2 Contact points every 500mm maximum.

END OF SECTION

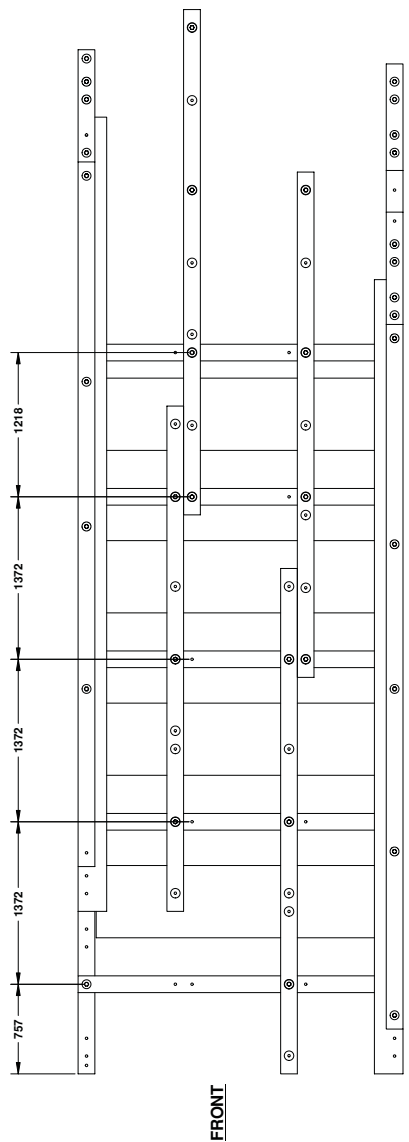


FRONT

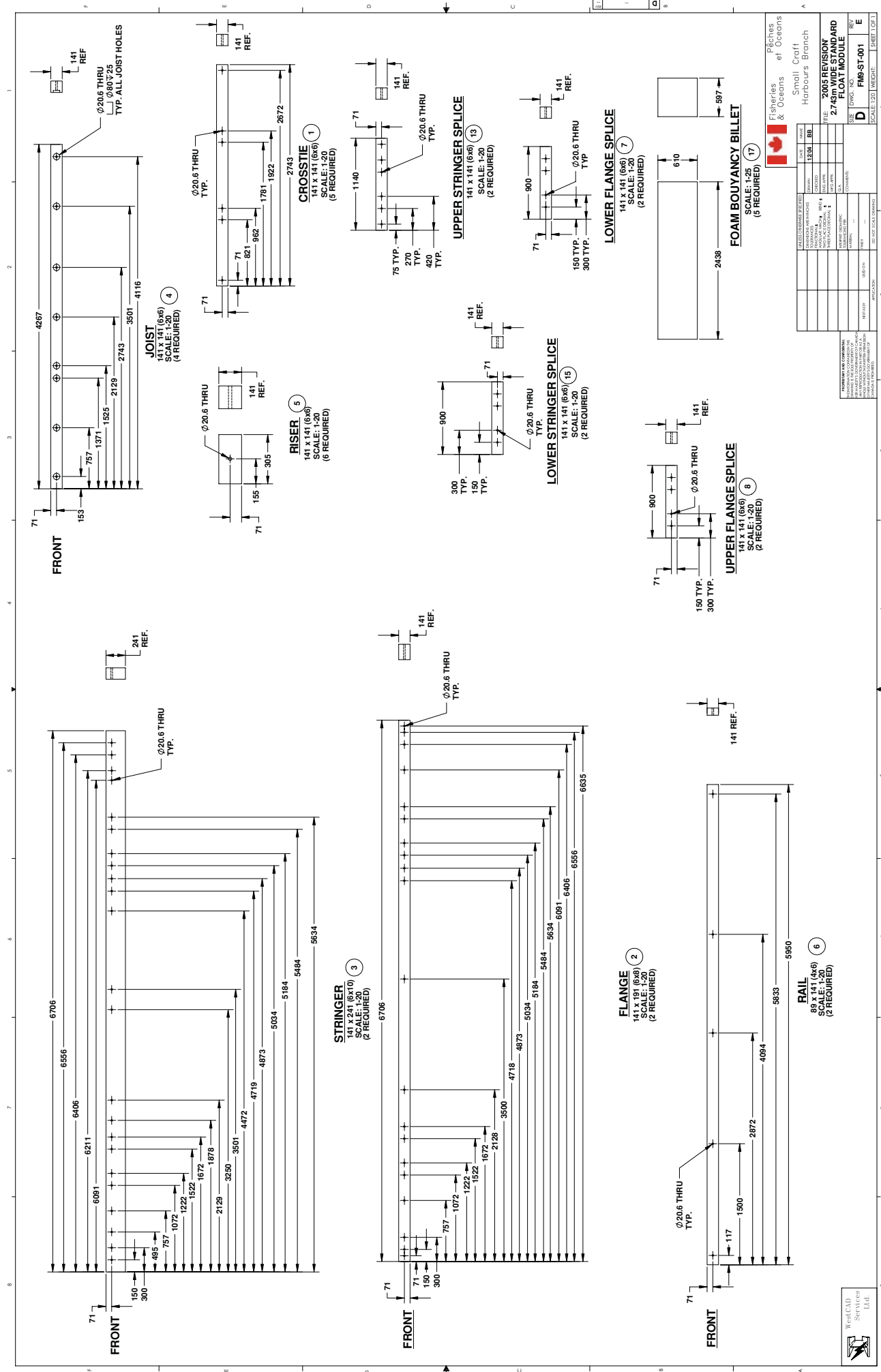
STANDARD 2743M WIDE FLOAT MODULE - 2005 REVISION
WITH 141x141 PIRANESSE 141x141 PIRANS

ITEM NO.	QTY.	TIMBER MEMBER	DESCRIPTION	MATERIAL
1	5	CROSS TIES	(6x6) 141 X 141 X 243 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
2	2	FLANGE	(6x6) 141 X 131 X 6706 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
3	2	STRINGER	(6x10) 141 X 241 X 6706 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
4	4	JOISTS	(6x6) 141 X 141 X 4267 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
5	6	RISER	(6x6) 141 X 141 X 305 LG	ACZA
6	2	RAIL	(4x6) 89 X 141 X 5950 LG	ACZA
7	2	LOWER FLANGE SPLICE	(6x6) 141 X 141 X 900 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
8	2	UPPER FLANGE SPLICE	(6x6) 141 X 141 X 900 LG	14 LB CREOSOTE TREATMENT #1 BTR FIR
13	2	UPPER STRINGER SPLICE	(6x6) 141 X 141 X 1140 LG	ACZA
15	2	LOWER STRINGER SPLICE	(6x6) 141 X 141 X 900 LG.	14 LB CREOSOTE TREATMENT #1 BTR FIR
17	5	FOAM BUOYANCY BILLET	610 X 597 X 2438 LG.	
19	28	DECK PLANKS	(12x2) 305 X 38 X 2440 LG	ACZA

ITEM NO.	QTY.	HARDWARE
9	14	HEX BOLT 19 x 300mm
10	98	WASHERS 19 DIA.
11	49	HEX NUT 19mm DIA.
12	10	HEX BOLT 19 x 508mm
14	15	HEX BOLT 19 x 660mm
16	10	HEX BOLT 19 x 406mm
20	192	100mm GALVANIZED SPIRAL NAILS



PLAN VIEW



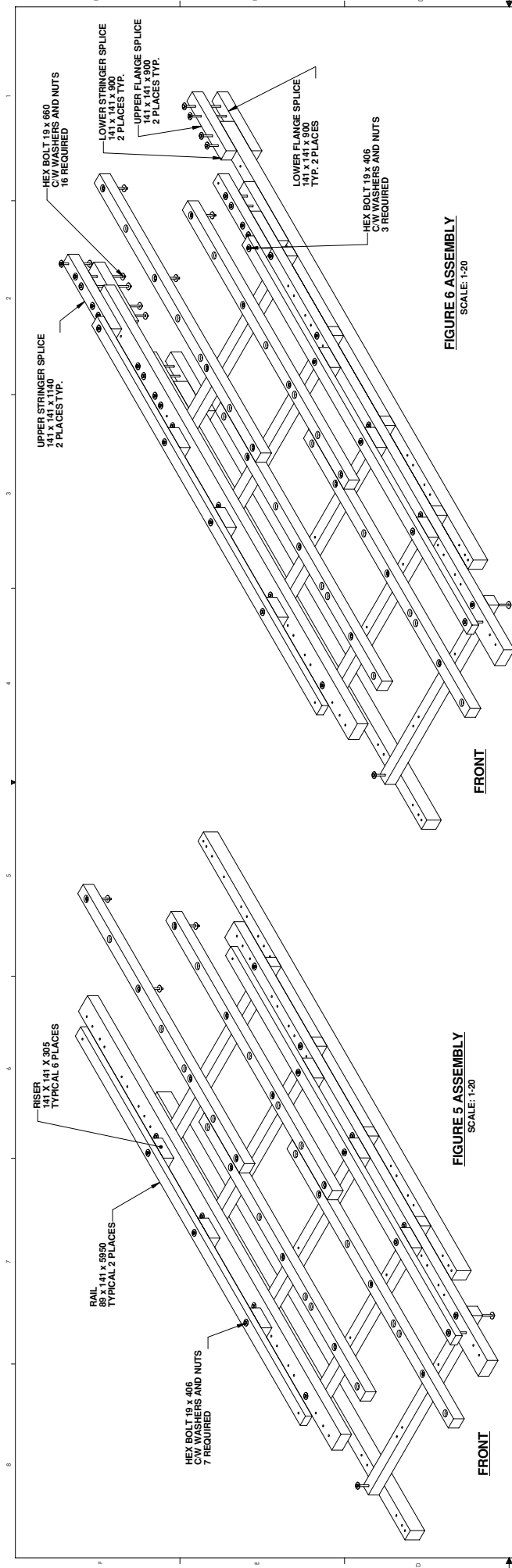


FIGURE 5 ASSEMBLY
SCALE: 1:20

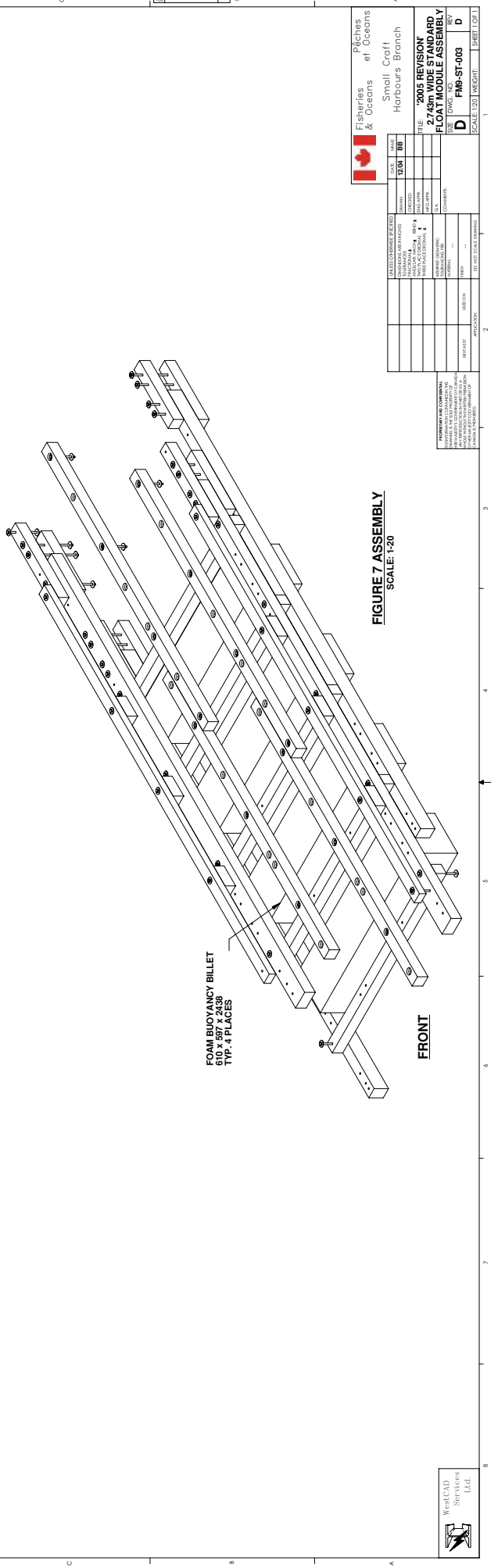


FIGURE 6 ASSEMBLY
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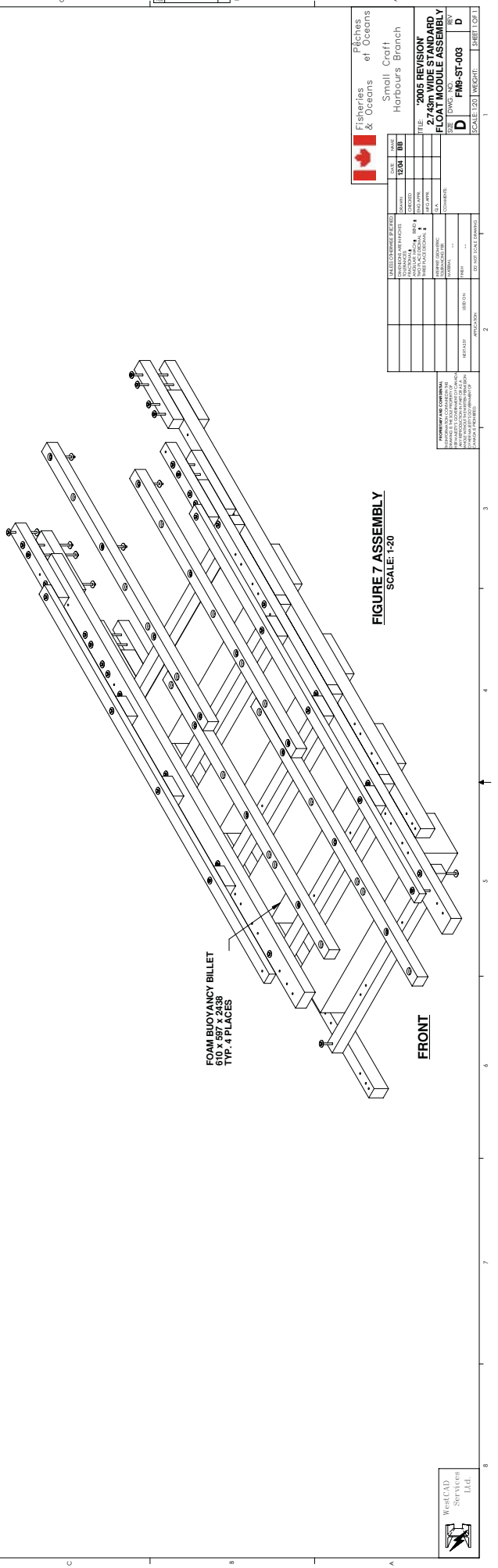


FIGURE 7 ASSEMBLY
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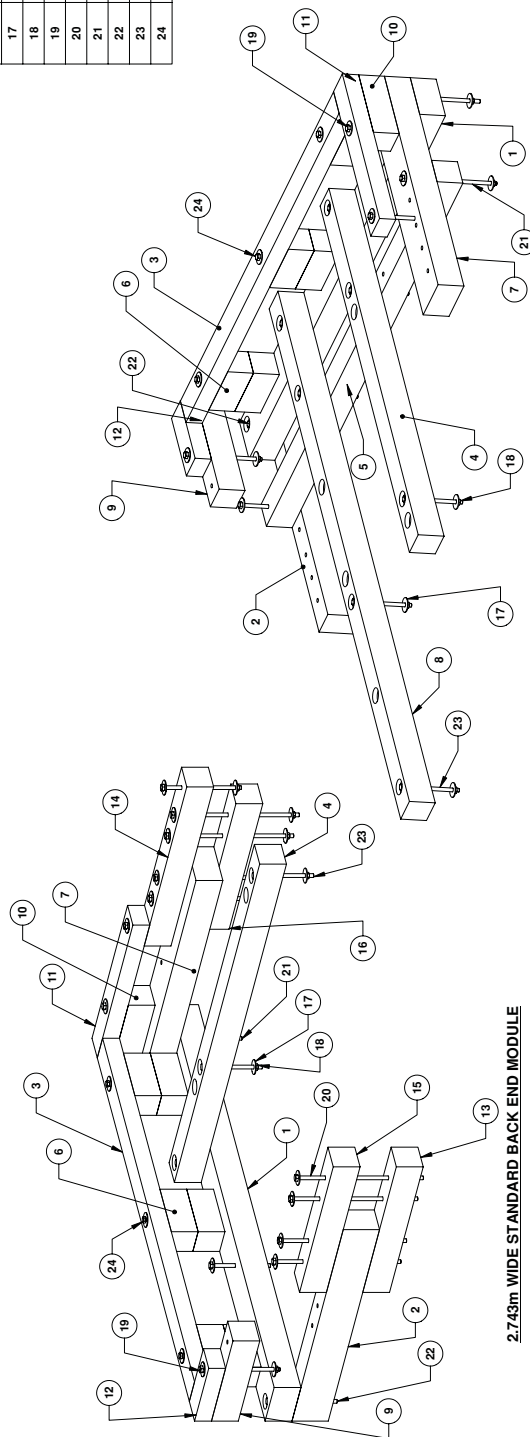
Fisheries & Oceans
Pêches et Océans

Small Craft
Harbours Branch

DATE	13-04	BY	TBB
DESIGNED	BY	CHECKED	DATE
DATE	DATE	DATE	DATE
REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	2003 REVISION		
2748mm WIDE STANDARD			
FLOAT MODULE ASSEMBLY			
DES	DATE	NO.	REV
D	FWB-ST-003	D	D
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ITEM NO.	QTY.	DESCRIPTION
17	76	WASHER 19mm DIA.
18	38	HEX NUT 19mm DIA.
19	7	HEX BOLT 19 x 406mm
20	8	HEX BOLT 19 x 660mm
21	4	HEX BOLT 19 x 508mm
22	2	HEX BOLT 19 x 356mm
23	11	HEX BOLT 19 x 300mm
24	6	HEX BOLT 19 x 557mm



2.743m WIDE STANDARD FRONT END MODULE

2.743m WIDE END FLOAT MODULES

[illegible]

