

Floating Wharf Installation**Gunning Cove DFO-SCH****Shelburne County, Nova Scotia****Project No. R.098182.001**

Metal Fabrication

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PART 1 - GENERAL1.1 Reference
Standards

- .1 CAN/CSA-G40.20-13/G40.21-13 (or latest edition), General Requirements for Rolled or Welded Structural Quality Steel / Structural Quality Steel.
- .2 CAN/CSA-S16.1-14 (or latest edition), Design of Steel Structures.
- .3 CAN/CSA-S157/S157.1-05 (R2015), Strength Design in Aluminum/Commentary on CAN/CSA-S157, Strength Design in Aluminum.
- .4 CSA W47.2-11 (R2015), Certification of Companies for Fusion Welding of Aluminum.
- .5 CSA W59-13 (or latest edition), Welded Steel Construction (Metal Arc Welding).
- .6 CSA W59.2-1991(R2008), Welded Aluminum Construction.
- .7 CAN/CGSB-1.181-99 (or latest edition), Ready-Mixed Organic Zinc-Rich Coating.
- .8 ASTM A123/A123M-17 (or latest edition), Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .9 ASTM B210/B210M-12, Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes.
- .10 ASTM F1554-17 (or latest edition), Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength.
- .11 ASTM A307-14 (or latest edition), Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.

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- .12 AWS - A5.10/A5.10M - 17, Welding Consumables - Wire Electrodes, Wires and Rods for Welding of Aluminum and Aluminum Alloys
- 1.2 Shop Drawings
- .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Indicate materials, core thicknesses, finishes, connections, joint, method of anchorage, number of anchors, supports, reinforcement, details and accessories.
- .3 Indicate cuts, copes, connections, holes, threaded fasteners, rivets, welds and other items. Indicate welds using welding symbols as shown in Appendix A of CSA W59.2.
- 1.3 Measurement for Payment
- .1 Measurement for payment will be in accordance with **Section 01 29 00.**
- PART 2 - PRODUCTS
- 2.1 Materials
- .1 Steel Sections: to CAN/CSA-G40.21, Grade 350W.
- .2 Steel plate and angles: to CAN/CSA-G40.21, Grade 350W.
- .3 Welding materials: to CSA W59.
- .4 Welding electrodes: to CSA W48 Series.
- .5 Aluminum drawn tubes: to ASTM B 210M
- .6 Aluminum welding wire: to AWS - A5.10/A5.10M.
- .7 Anchor bolts: to ASTM F1554, grade 55 ksi.
- .8 Bolts: to ASTM A307.
- .5 Galvanizing: hot dipped galvanizing with zinc coating 610 g/m² to ASTM A123/A123M.
- .6 Zinc primer: Zinc rich, ready mix to CGSB 1-GP-181.

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2.2 Fabrication

- .1 Build work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
- .2 Fabricate items from steel unless otherwise noted.
- .3 Galvanize all miscellaneous steel items, anchor bolts, and inserts.
- .4 Fabricate aluminum to CAN/CSA-S157 and in accordance with approved shop drawings.
- .5 Companies to be certified under Division 1 or 2.1 of CSA W47.2 for fusion welding of aluminum.
- .6 Where possible, fit and shop assemble work, ready for installation.
- .7 Ensure exposed welds are continuous for length. All members to be seal welded unless noted otherwise.
- .8 File or grind exposed welds smooth and flush.

2.3 Finishes

- .1 Galvanizing: hot dipped galvanizing with zinc coating 610g/m².
- .2 Aluminum Finish: plain mill.

2.3 Miscellaneous
Metal Work Items

- .1 Miscellaneous anchors, bolts and inserts:
 - .1 Where size, spacing and the like are not indicated, provide as necessary for the purpose.
 - .2 Galvanize all miscellaneous anchors, bolts and inserts.
- .2 Miscellaneous Steel:

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- .1 Provide miscellaneous steel as required for guide units and the like to the shape, size and details required.
 - .2 Galvanize all miscellaneous steel items.

PART 3 - EXECUTION3.1 Erection

- .1 Erect and install metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
- .2 Make field connections with bolts to CAN/CSA-S16.1, or weld.
- .3 Do welding work in accordance with CSA W59 unless specified otherwise.
- .4 Erect structural aluminum as indicated and to CAN/CSA-S157.
- .5 Field cutting or altering structural members: to approval of Departmental Representative.
- .6 Deliver items over for casting into concrete together with setting templates to appropriate location and construction personnel.
- .7 Touch-up bolts and scratched surfaces after completion of erection with zinc primer.