

PART 1 - GENERAL

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| 1.1 | <u>Reference Standards</u>     | .1 | Do welding work in accordance with CSA W59-1989 unless specified otherwise. Welding qualifications to CSA W47.1-1983.   |
|     |                                | .2 | Steel for structural and other shapes shall conform to CAN3-G40.21M. Bolts and nuts shall conform to CSA B35.1-1976.  |
| 1.2 | <u>Measurement For Payment</u> | .1 | <u>Attraction Flow Grating Pool #1:</u> As specified including all plant, material, labour and equipment will constitute a unit price per square meter (m <sup>2</sup> ) for measurement purposes.<br>.1 Include incidental to this work all costs associated with confirming the as-built dimensions/conditions, supply and installation of the grating including support angles, and channels, grading, fabrication and fastenings. |
|     |                                | .2 | <u>Trash Rack:</u> as specified including all plant, material, labour and equipment will constitute a unit price per square meter (m2) for measurement purposes.<br>.1 Include incidental to this work all costs associated with the supply and installation of the trash rack including materials, fabrication, hot dipped galvanizing and fastenings.   |
|     |                                | .3 | <u>Attraction Flow Screen Grating Pool #6:</u> As specified including all plant, material, labour and equipment will constitute a unit price per square meter (m2) for measurement purposes.<br>.1 Include incidental to this work all costs associated with confirming the existing conditions, supply and installation of the grating and accessories.  |
|     |                                | .4 | <u>Cable Safety Line Assembly:</u> No separate measurement for payment shall be made for this, include all cost to supply this in the Lump Sum Portion of the work on the Bid & Acceptance Form.  |

- .5 All costs for concrete repair work required around the grating perimeter, trash rack guides, and all other miscellaneous metals, shall be included in the respective unit price items, as per Section 03 30 07 - Concrete Repairs, as approved by the Departmental Representative.
- .6 No separate payment to be made for the new galvanized steel sill plate at pool #6. Include all costs incidental in the unit cost for Cast-in-Place Concrete (new structures) as per Section 03 30 07 - Concrete Repairs.
- 1.3 Shop Drawings .1 Submit shop drawings in accordance with Section 01 33 00.
- .2 Indicate materials, core thicknesses, finishes, connections, joints, method of anchorage, number of anchors, supports, reinforcement, details, and accessories.
- 1.4 Site Measurements .1 Take critical measurements at site to facilitate installation and fitting.
- PART 2 - PRODUCTS
- 2.1 Materials .1 All metals materials to be galvanized.
- .2 Steel sections and plates: to CSA-G40.21-M97, Grade 350W.
- .3 Welding materials: to CSA W59.
- .4 Bolts and anchors bolts: to ASTM A307-84a.
- .5 Galvanizing: hot dipped galvanizing with zinc coating 705 g/m<sup>2</sup> to ASTM A123/A123M.
- .6 Shop coat primer: to CGSB 1-GP-40M.
- .7 Zinc primer: zinc rich, ready mix to CGSB 1-GP-181M+Amdt-Mar-78.

- .8 Grout: non-shrink, non-metallic, flowable, 28 day compressive strength: 40 Mpa.
  - .9 Screen: galvanized steel screen to opening size and thickness to match existing.
  - .10 Safety cable; 6X26 WS + IWRC galvanized wire rope, EIPS, Dia. 8mm (5/16), RHRL, both ends terminated with machined - hard eyes, length approximately 30 metres (contractor to field verify exact measurement).
  - .11 Turnbuckle; one each galvanized, jaw & jaw type, (5/8 X 18), 1587 Kgs WLL.
  - .12 Shackles; two each, 12.5mm galvanized screw pin type.
- 2.2 Grating
- .1 Attraction Flow Grating - Pool #1 -  
Galvanized welded type grating with non-serrated edge, sized to fit. As-built dimensions to be confirmed by Contractor prior to ordering. All grating to be fully banded and fastened with Borden standard fasteners or approved equal. Standard of acceptance for grating: Borden, Type WB, with non-serrated edge, sized to suit existing openings.
  - .2 Attraction Flow Screen Grating - Pool #6 -  
Galvanized riveted type grating with non-serrated edge, sized to fit as-built dimensions which shall be confirmed by contractor prior to ordering. Grating to be fully banded. Standard of acceptance: Borden, Type E (18-R-3.5), with non-serrated edges to sizes to suit existing openings.
- 2.3 Miscellaneous Angles, Brackets and Supports
- .1 Supply and install all rods, angles, brackets, nuts, bolts, and other such ancillary supports and fastenings not specifically mentioned elsewhere in contract documents.

- 2.4 Fabrication
- .1 Do not commence fabrication until shop drawings have been reviewed.
  - .2 Fabricate work square, true, straight and accurate to required size, with joints closely fitted and properly secured.
  - .3 Use self-tapping shake-proof flat headed screws on items requiring assembly by screws or as indicated. Use screws for interior metal work. Use welded connections exterior metal work unless otherwise approved by Departmental Representative.
  - .4 Where possible, fit and shop assemble work, ready for erection.
  - .5 Ensure exposed welds are continuous for length of each joint. File or grind exposed welds smooth and flush. Seal exterior steel fabrications to provide corrosion protection in accordance with CAN3-S16.1-M84.

PART 3 - EXECUTION

- 3.1 Erection
- .1 Erect metalwork square, plumb, straight, and true, accurately fitted, with tight joints and intersections.
  - .2 Provide suitable means of anchorage acceptable to Departmental Representative such as dowels, anchor clips, bar anchors, expansion bolts and shields, and toggles.
  - .3 Make field connections with high tensile bolts to CAN3-S16.1, or weld.
  - .4 Hand items over for casting into concrete or building into masonry to appropriate trades together with setting templates.
  - .5 Touch-up galvanized surfaces with zincrich primer where burned by field welding.
  - .6 Isolate dissimilar metal with bituminous paint or an alternative isolation material approved by the Departmental

- 3.2 Miscellaneous Supports .1 Representative.  
Install all angles, channels, brackets, plates, nuts, bolts, anchors and other such ancillary items as detailed on drawings and as specified.
- .2 Ensure they are adequately secured to structure.
- 3.3 Safety Cable .1 Contractor shall measure the distance between the mooring pile in river and the land based mooring block with the shackles and turnbuckle fully extended in place such that the cable length will be approximately 150 to 200mm longer.
- .2 After everything has been fitted contractor shall remove cable & turnbuckle and turn over these materials to Departmental Representative for future use.