
Light Tower Refurbishment 2015

Cape Race, NL

F6879-151006

2015-02-12

1.1 SCOPE

- .1 The work consists of the furnishing of all plant, labour, equipment and material for restoration of the exterior of the Cape Race Light Tower, NL, in strict accordance with specifications and accompanying drawings and subject to all terms and conditions of the Contract. The Site is accessible by gravel road (note that the gravel road is not snow-cleared during the winter months).
- .2 All specifications related to the new lightning protection system are indicated on the drawings.
- .3 DFO will schedule a mandatory site visit during the tender period. The site visit will occur over a one day period (Contractors wishing to visit site shall contact the Departmental Representative to obtain schedule). Contractor responsible for all costs associated with getting to/from the site in Cape Race. Note the following:
 - If weather is poor on the scheduled site visit day, it will occur on the following day.
 - A maximum of 2 persons per Contractor will be permitted entry into the building.
 - Time allocated on site will be a maximum of 2 hours.
 - 2 days advance notice is to be given to the Departmental Representative with respect to the company and individuals attending the visit.

The Site visit will occur within 8 calendars days after posting of the project.

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1.2 DESCRIPTION OF WORK

.1 In general, work under this contract consists of, but will not necessarily be limited to, the following:

.1 Re-painting of the exterior galvanized steel catwalk railings and decorative trim sections above the catwalk that are designated to remain. General requirements will include pressure washing (or abrasive blasting) to remove all existing coatings that are on the steel surfaces. Power tool clean to SSPC-SP-11 to roughen the exposed galvanized surface and to remove all rust that has developed on the surface. Prime surface by applying 2 coats of Amerlock 2 Surface Tolerant Epoxy Coating (or approved equivalent) at 5-7 mils dry film thickness per coat. Apply one coat of Amershield High Solids Polyurethane coating (or approved equivalent) at 3-5 mils dry film thickness.

.2 For the concrete tower, square cut the opened cracked areas to a minimum of 50mm width to a depth of 25mm. Assume total length of concrete cracks is 100 linear metres. Assume an additional 50m² of concrete spalling. Once cracked and spalled area have been prepared, apply Master Emeco N425 (or approved equivalent) in accordance with manufacturer's instructions. Allow repairs to cure. Once repairs have cured, pressure wash the entire exterior concrete structure to remove any loose coatings and other contaminants that are on the surface. Apply 1 coat touch up coat of Master Protect HB300 SB coating (or approved equivalent) to any bare concrete areas. Obtain Departmental Representative's approval before proceeding with subsequent coats. Apply 2 coats of Master Protect

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HB300 SB coating (or approved equivalent) to the entire concrete surface. Apply as per manufacturer's instructions.

.3 For the cast iron dome area, pressure wash using freshwater to remove all chlorides and contaminants that are on the surface. Abrasive blast the substrate to SSPC-SP-10 near white metal to achieve an anchor profile of 2.0 mils. The SSPC-SP10's definition of a near-white metal blast clean requires the surface to be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products, and other foreign matter when viewed without magnification. The standard also provides requirements for "random staining" on the surface which shall not exceed five percent of each unit area of surface. The surface shall be cleaned of oil, grease, and dust after the near-white metal blasting procedure. Any blasted areas that show pitting are to be filled with Belzona 1111 Super Metal Paste Grade Metallic Filler (or approved equivalent). Pits should be filled flush with surrounding steel area prior to priming. Once all pitting has been addressed apply one coat of Amercoat 370 Epoxy (or approved equivalent) at 5 mils Dry Film Thickness. Apply one coat (by Plural Spray) of PPG Amerthane 490 Elastomeric Polyurea Hibrid Coating (or approved equivalent) at 80 Mils Dry Film Thickness. Apply one coat of PPG Amershield High Solids Polyurethane (or approved equivalent) at 3 Mils Dry Film Thickness.

.4 Supply and installation of new asphalt shingles, door frame and door (complete with hardware and vent), for the porch entrance.

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.5 Supply and installation of new Cape Cod siding on the exterior of the porch entrance shed.

.6 Supply and installation of fall arrest tie-off points on the catwalk area, complete 12mm diameter aircraft cable around full perimeter of catwalk, as directed by the Departmental Representative.

.7 Supply and installation of signage on the hatch door to the catwalk area, to restrict access to maintenance personnel only.

.8 Supply and installation of new lightning protection system as indicated on the electrical drawings. Ensure all grounds are restored to their original condition following installation of lightning protection works.

Do not proceed with any portion of the work until the Departmental Representative has approved the Contractor's written work plan. Note that lead paint is present on the structure and measures will have to be implemented in the Contractor's work plan to limit occupational exposure to lead. All scaffolding used in the work is to bear the stamp of a professional engineer licensed to practice by PEG-NL.

1.3 SITE OF WORK

.1 Work will be carried out at Cape Race, NL. The Site is relatively remote, but is accessible by gravel road located in the community of Portugal Cove South.

1.4 DATUM

.1 Datum used for this project is Lowest Normal Tides (LNT). If requested by the Contractor, the Departmental Representative will establish a benchmark

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prior to the start of deconstruction activities.

- 1.5 FAMILIARIZATION WITH SITE .1 Before submitting a bid, it is recommended that bidders visit the site and its surroundings to review and verify the form, nature and extent of the work, materials needed for the completion of the work, the means of access to the site, severity, exposure and uncertainty of weather, any accommodations they may require, and in general shall obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid or costs to do the work. No allowance shall be made subsequently in this connection on account of error or negligence to properly observe and determine the conditions that will apply.
- .2 Contractors, bidders or those they invite to site are to review specification Section 01 35 29 - Health and Safety Requirements before visiting site. Take all appropriate safety measures for any visit to site, either before or after acceptance of bid.
- .3 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- 1.6 CODES AND STANDARDS .1 Perform work in accordance with the latest edition of the National Building Code of Canada, and any other code of provincial or local application including all amendments up to project bid closing date provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Materials and workmanship must meet or

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exceed requirements of specified standards, codes and referenced documents.

- 1.7 TERM ENGINEER .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Departmental Representative.
- 1.8 SETTING OUT WORK .1 Set grades and layout work in detail from control points and grades established by Departmental Representative.
- .2 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated or as directed by Departmental Representative.
- .3 Provide devices needed to layout and construct work.
- .4 Supply such devices required to facilitate Departmental Representative's inspection of work.
- .5 Supply stakes and other survey markers required for laying out work.
- 1.9 COST BREAKDOWN .1 Before submitting first progress claim submit breakdown of Contract price in detail as directed by Departmental Representative and aggregating contract price.
- .2 Provide cost breakdown in same format as the numerical and subject title system used in this specification project manual and thereafter sub-divided into major work components as directed by Departmental Representative.
- .3 Upon approval by Departmental Representative, cost breakdown will be

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used as basis for progress payment.

- .4 This will be a lump sum project. Individual work items will not be measured separately for payment.

1.10 WORK SCHEDULE

- .1 Submit within 7 work days of notification of acceptance of bid, a construction schedule showing commencement and completion of all work within the time stated on the Bid and Acceptance Form and the date stated in the bid acceptance letter.
- .2 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .3 As a minimum, work schedule to be prepared and submitted in the form of Bar (GANTT) Charts, indicating work activities, tasks and other project elements, their anticipated durations and planned dates for achieving key activities and major project milestones provided in sufficient details and supported by narratives to demonstrate a reasonable plan for completion of project within designated time. Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .4 Submit schedule updates on a minimum bi-weekly basis and more often, when requested by Departmental Representative, due to frequent changing project conditions. Provide a narrative explanation of necessary changes and

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schedule revisions at each update.

- .5 The schedule, including all updates, shall be to Departmental Representative's approval. Take necessary measures to complete work within approved time. Do not change schedule without Departmental Representative's approval.
- .6 All work on the project will be completed within the time indicated on the Bid and Acceptance Form.

1.11 ABBREVIATIONS

- .1 Following abbreviations of standard specifications have been used in this specification and on the drawings:

CGSB - Canadian Government Specifications Board

CSA - Canadian Standards Association

NLGA - National Lumber Grades Authority

ASTM - American Society for Testing and Materials

- .2 Where these abbreviations and standards are used in this project, latest edition in effect on date of bid call will be considered applicable.

1.12 SITE OPERATIONS

- .1 Arrange for sufficient space adjacent to project site for conduct of operations, storage of materials and so on. Exercise care so as not to obstruct or damage public or private property in area. All arrangements for space and access will be made by Contractor.

1.13 PROJECT MEETINGS

- .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording minutes.
- .2 Project meetings will take place on site of work unless so directed by the

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Departmental Representative.

.3 Departmental Representative will assume responsibility for recording minutes of meetings and forwarding copies to all parties present at the meetings.

.4 Have a responsible member of firm present at all project meetings.

1.14 PROTECTION

.1 Store all materials and equipment to be incorporated into work to prevent damage by any means.

.2 Repair or replace all materials damaged in transit or storage to the satisfaction of Departmental Representative and at no cost to Canada.

1.15 EXISTING SERVICES

.1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to site operations, and tenant operations.

.2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

.3 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility.

.4 Provide temporary services when directed by Departmental Representative to maintain critical facility systems.

1.16 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy each of the following:

.1 Contract Drawings

.2 Specifications

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- .3 Addenda
- .4 Contract and any resulting amendments signed by contracting authority.
- .5 Test Reports
- .6 Copy of Approved Work Schedule
- .7 Site specific Health and Safety Plan and other safety related documents.

1.17 PERMITS

- .1 Obtain and pay for all permits, certificates and licenses as required by Municipal, Provincial, Federal and other Authorities.
- .2 Provide appropriate notifications of project to municipal and provincial inspection authorities.
- .3 Obtain compliance certificates as prescribed by legislative and regulatory provisions of municipal, provincial and federal authorities as applicable to the performance of work.
- .4 Submit to Departmental Representative, copy of application submissions and approval documents received for above referenced authorities.
- .5 Comply with all requirements, recommendations and advice by all regulatory authorities unless otherwise agreed in writing by Departmental Representative. Make requests for such deviations to these requirements sufficiently in advance of related work.

1.18 CUTTING,
FITTING AND
PATCHING

- .1 Execute cutting, including excavation, fitting and patching required to make work fit properly.

1.19 ACCEPTANCE

- .1 Prior to the issuance of the Certificate of Substantial Performance, in company

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with Departmental Representative, make a check of all work. Correct all discrepancies before final inspection and acceptance.

1.20 WORKS
COORDINATION

- .1 Responsible for coordinating the work of the various trades, where the work of such trades interfaces with each other.
- .2 Convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required. Provide each trade with the plans and specifications of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
- .3 Canada will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor and shall be resolved at no extra cost to Canada.

1.21 CONTRACTOR'S
USE OF SITE

- .1 Responsible for arranging the storage of materials on or off site, and any materials stored at the site which interfere with any of the day to day activities at or near the site will be moved promptly at the Contractor's expense, upon request by Departmental Representative.
- .2 Exercise care so as not to obstruct or damage public or private property in the area.

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- .3 At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor. Remove all construction materials, residue, excess, etc., and leave site in a condition acceptable to Departmental Representative.

1.22 WORK COMMENCEMENT

- .1 Mobilization to project site is to commence immediately after acceptance of bid and submission of Site Specific Safety Plan and insurance and bonding documentation, unless otherwise agreed by Departmental Representative.
- .2 Project work on site is to commence as soon as possible, with a continuous reasonable work force, unless otherwise agreed by Departmental Representative.
- .3 Weather conditions, short construction season, delivery challenges and the location of the work site may require the use of longer working days and additional work force to complete the project within the specified completion time.
- .4 Make every effort to ensure that sufficient material and equipment is delivered to site at the earliest possible date after acceptance of bid and replenished as required.

1.23 MERCURY VAPOURS

- .1 Work under this contract is expected to be limited to the exterior (with the exception of signage installation on the inside of the lantern room hatch door). Contractors are to note the minimum protection measures to be implemented to limit occupational exposure to mercury vapours when inside the building (refer to Appendix C for specific requirements).