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1.1 DESCRIPTION OF
WORK

- .1 In general, work under this contract consists of: 1) draining, cleaning, dismantling, removing and dispensing three 909 litre above ground diesel storage tanks, and; 2) installation of two new 909 litre above ground diesel storage tanks, appurtenances, and monitoring console as shown on the contract drawings. Refer to contract drawings for detailed information related to the scope of work.
- .2 Site of Work is at: Point Escuminac Light Station, Point Escuminac, Northumberland County, New Brunswick.
- .3 Site is an unmanned, secure location. All site work will be scheduled and coordinated with Department of Fisheries and Oceans, Canadian Coast Guard (CCG) personnel. CCG personnel will provide access and remain on site during performance of all work.

1.2 FAMILIARIZATION
WITH SITE

- .1 Before submitting a bid, it is recommended that bidders visit the site (not mandatory) to review and verify the form, nature and extent of the work, materials needed, the means of access and the temporary facilities required to perform the Work.
- .2 Obtain prior permission from the Departmental Representative before carrying out such site inspection. Security clearance is required prior to entry to site.

1.3 CODES AND
STANDARDS

- .1 Perform work in accordance with the CSA B139 Series-15 Installation Code for Oil Burning Equipment, The National Fire code of Canada 2015, and any other code of provincial or local application, including all amendments up to bid closing date, provided that in any case of conflict or discrepancy, the more stringent requirement shall apply.

- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.

1.4 TERM ENGINEER

- .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Departmental Representative as defined in the General Conditions of the Contract.

1.5 DOCUMENTS
REQUIRED

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed Shop Drawings
 - .5 List of outstanding shop drawings
 - .6 Change Orders
 - .7 Other modifications to Contract
 - .8 Field Test Reports
 - .9 Copy of Approved Work Schedule
 - .10 Other documents as stipulated elsewhere in the Contract Documents.
 - .11 Existing Environmental Emergency Response Plan is posted on-site. A copy will be provided to the Contractor by the Departmental Representative for review prior to start of work.

1.6 PERMITS

- .1 In accordance with the General Conditions, obtain and pay for building permit, certificates, licenses and other permits as required by municipal, provincial and federal 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, a copy of application forms and approval documents received from above referenced authorities.

1.7 ALTERATIONS,
ADDITIONS OR
REPAIRS TO EXISTING
BUILDING

- .1 Execute work with least possible interference or disturbance to facility operations and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

- .2 Provide temporary barriers, warning signs in at entry points into the work area.

1.8 CUTTING,
FITTING AND
PATCHING

- .1 Not applicable

1.9 EXISTING
SERVICES

- .1 Before commencing work, establish location and extent of service lines in area of work and ensure services not related to the work are protected and remain active and undisturbed.

1.10 BUILDING
SMOKING ENVIRONMENT

- .1 Comply with smoking restrictions.

1.1 RELATED
SECTIONS

- .1 Section 01 10 10 - General Instructions.
- .2 Section 01 35 29 - Health and Safety Requirements.
- .3 Section 01 78 00 - Closeout Submittals.
- .4 Section 33 56 13 - Fuel Storage Tank Aboveground
- .5 Section 33 65 13 - Petroleum System Distribution

1.2 SUBMITTAL
GENERAL REQUIREMENTS

- .1 Submit to Departmental Representative for review requested submittals specified in various sections of the specifications including shop drawings, samples, permits, compliance certificates, test reports, work management plans and other data required as part of the work.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions have been reviewed.
- .4 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission. Ensure that necessary requirements have been determined and verified and that each

submittal has been checked and co-ordinated with requirements of Work and Contract Documents.

.1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by Departmental Representative and considered rejected.

.7 Verify field measurements and affected adjacent Work are coordinated.

.8 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.9 Contractor's responsibility for errors, omissions or deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.

.10 Submittal format: Adobe .pdf file format submitted via email is acceptable. Submittals must be clear and legible.

.11 Make changes or revision to submissions which Departmental Representative may require, consistent with Contract Documents and resubmit as directed by Departmental Representative. When resubmitting, identify in writing of any revisions other than those requested.

.12 Keep one reviewed copy of each submittal document on site for duration of Work.

1.3 SHOP DRAWINGS
AND PRODUCT DATA

.1 The term "shop drawings" means fabrication drawings, erection drawings, diagrams, illustrations, schedules, performance charts, technical product data, brochures, specifications, test reports installation instructions and other data which are to be

provided by Contractor to illustrate compliance with specified materials and details of a portion of work.

- .2 Shop Drawing Submittal Schedule:
 - .1 Submit within 5 working days of acceptance of bid a schedule listing all shop drawings to be submitted for project.
 - .2 Schedule shall be in format acceptable to Departmental Representative and indicate proposed submission date for each item, status of review and anticipated product delivery date to site. Track all submissions for entire project.
 - .3 Revise schedule as work progresses. Identify items which have been reviewed and finalized and indicating those outstanding.
 - .4 Update schedule at stipulated dates or project time intervals predetermined and agreed upon with Departmental Representative at commencement of Work.
- .3 Shop Drawings Format:
 - .1 Product Data from manufacturer's standard catalogue sheets, brochures, literature, performance charts and diagrams, used to illustrate standard manufactured products, to be original full colour brochures, clearly marked indicating applicable data and deleting information not applicable to project.
 - .2 Non or poorly legible drawings, photocopies or facsimiles will not be accepted and returned not reviewed.
- .4 Shop Drawings Content:
 - .1 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where items or equipment attach or connect to other items or equipment, confirm that all interrelated work have been coordinated, regardless of section or trade

from which the adjacent work is being supplied and installed.

.2 Supplement manufacturer's standard drawings and literature with additional information to provide details applicable to project.

.3 Delete information not applicable to project on all submittals.

.5 Allow 5 calendar days for Departmental Representative's review of each submission.

.6 Adjustments or corrections made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise Departmental Representative in writing prior to proceeding with Work.

.7 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If shop drawings are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected shop drawings, through same submission procedures indicated above.

.8 Be advised that costs and expenses incurred by Departmental Representative to conduct more than one review of incorrectly prepared shop drawing submittal for a particular material, equipment or component of work may be assessed against the Contractor in the form of a financial holdback to the Contract.

.9 Submissions shall include:

.1 Date and revision dates.

.2 Project title and project number.

.3 Name and address of:

.1 Subcontractor.

.2 Supplier.

- .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized Representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Cross references to particular details of contract drawings and specifications section number for which shop drawing submission addresses.
- .10 After Departmental Representative's review, distribute copies.
- .11 The review of shop drawings by the Departmental Representative or designate is for sole purpose of ascertaining conformance with general concept. This review shall not mean that Canada approves the detail design inherent in the shop drawings, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in shop drawings or of responsibility for meeting all requirements of the construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

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- 1.1 RELATED WORK .1 Section 01 10 10: General Instructions.
- 1.2 DEFINITIONS .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .2 Competent Person: means a person who is:
- .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
 - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
 - .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
- .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .4 PPE: personal protective equipment
- .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.
- 1.3 SUBMITTALS .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit name of designated Health & Safety Site Representative.
- .3 Submit building permit, compliance certificates and other permits obtained.

- .4 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labor organization.
 - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.
- .5 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .6 Submit copies of incident reports.

1.4 COMPLIANCE
REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of New Brunswick, and General Regulations made pursuant to the Act.
- .2 Comply with Canada Labor Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labor Code can be viewed at: [www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
 - .2 COSH can be viewed at: [www.http://laws.justice.gc.ca/eng/SOR-86-304/n_e.html](http://laws.justice.gc.ca/eng/SOR-86-304/n_e.html)
 - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
- .3 Observe construction safety measures of:
 - .1 Part 8 of the National Building Code
 - .2 Municipal by-laws and ordinances.
 - .3 the National Fire Code
- .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .5 Maintain Workers Compensation Coverage in

good standing for duration of Contract.
Provide proof of clearance through submission
of Letter in Good Standing.

- .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances.

1.6 SITE CONTROL
AND ACCESS

- .1 Site is an unmanned secure location. CCG personnel will provide access and will remain on site during performance of all work.
- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
 - .1 Erect barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, create a safe environment.
- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections as required.

- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm.

1.7 PROTECTION

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

1.8 FILING OF
NOTICE

- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
 - .1 Departmental Representative will assist in locating address if needed.

1.9 PERMITS

- .1 Post permits, licenses and compliance certificates, specified in section 01 10 10, at Work Site.
- .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.

1.10 HAZARD
ASSESSMENTS

- .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.

- .3 Keep documentation on site for entire duration of the Work.

1.11 PROJECT/SITE
CONDITIONS

- .1 Following are potential health, environmental and safety hazards at the site for which Work may involve contact with:
 - .1 Existing hazardous and controlled products stored on site:
 - .1 Above ground oil storage tanks and connection lines.
 - .2 Facility on-going operations:
 - .3 Possibility of working with atmospheric hazard.
 - .4 Electrical equipment hazards.
 - .2 Above items shall not be construed as being complete and inclusive of potential health and safety hazards encountered during Work.
 - .3 Include above items in the hazard assessment of the Work.
 - .4 MSDS Data sheets of pertinent hazardous and controlled products stored on site can be obtained from Departmental Representative.

1.12 MEETINGS

- .1 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .2 Keep documents on site.

1.13 HEALTH AND
SAFETY PLAN

- .1 Not used.

1.14 SAFETY
SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.

- .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
 - .2 Conduct site safety orientation session to persons granted access to Work Site.
 - .3 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
 - .4 Stop the Work as deemed necessary for reasons of health and safety.
- .3 Health & Safety Site Representative must:
 - .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
- .4 All supervisory personnel assigned to the Work shall also be competent persons.

1.15 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental

Representative verbally and in writing.

1.16 MINIMUM
SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
 - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
 - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
 - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non compliance.

1.17 CORRECTION OF
NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.

1.18 INCIDENT
REPORTING

- .1 Investigate and report the following incidents to Departmental Representative:
 - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.

- .2 Medical aid injuries.
 - .3 Property damage in excess of \$10,000.00,
 - .4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5000.00.
 - .2 Submit report in writing.
- 1.19 HAZARDOUS PRODUCTS
- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
 - .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.
 - .3 For interior work in an occupied Facility, post additional copy in one or more publically accessible locations.
- 1.20 BLASTING
- .1 Blasting or other use of explosives is not permitted on site.
- 1.21 POWDER ACTUATED DEVICES
- .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.
- 1.22 CONFINED SPACES
- .1 Abide by occupational health and safety regulations regarding work in confined spaces.
 - .2 Obtain an Entry Permit in accordance with Part XI of the Canada Occupational Health and Safety Regulations for entry into an existing identified confined space located at the Facility or premises of Work.
 - .1 Obtain permit from Facility Manager
 - .2 Keep copy of permit issued.
 - .3 Safety for Inspectors:

.1 Provide PPE and training to Departmental Representative and other persons who require entry into confined space to perform inspections.

.2 Be responsible for efficacy of equipment and safety of persons during their entry and occupancy in the confined space.

1.23 SITE RECORDS

.1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.

.2 Upon request, make available to Departmental Representative or authorized Safety Officer for inspection.

1.24 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.

- 1.5 DISPOSAL OF WASTES
- .1 Do not bury rubbish and waste materials on site.
 - .2 Do not dispose of hazardous waste or volatile materials, such as mineral spirits, paints, thinners, oil or fuel into waterways, storm or sanitary sewers or waste landfill sites.
 - .3 Dispose of hazardous waste in accordance with applicable federal and provincial laws, regulations, codes and guidelines.
- 1.6 ENVIRONMENTAL RESPONSE PLAN
- .1 Existing Environmental Emergency Response Plan is posted on-site. A copy will be provided to the Contractor by the Departmental Representative for review prior to start of work.

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- 1.1 SECTION INCLUDES .1 Administrative procedures preceding inspection and acceptance of Work by Departmental Representative.
- 1.2 RELATED SECTIONS .1 Section 01 78 00 - Closeout Submittals.
- 1.3 INSPECTION AND DECLARATION .1 Contractor's Inspection: Coordinate and perform, in concert with subcontractors, an inspection and check of all Work. Identify and correct deficiencies, defects, repairs and perform outstanding items as required to complete work in conformance with Contract Documents.
- .1 Notify Departmental Representative in writing when deficiencies from Contractor's inspection have been rectified and that Work is deemed to be complete and ready for Departmental Representative's inspection of the completed work.
- .2 Departmental Representative's Inspection: Accompany Departmental Representative during all substantial and final inspections of the Work.
- .1 Address defects, faults and outstanding items of work identified by such inspections.
- .2 Advise Departmental Representative when all deficiencies identified have been rectified.
- .3 Note that Departmental Representative will not issue a Certificate of Substantial Performance of the work until such time that Contractor performs the following work and turns over the specified documents:
- .1 Project record as-built documents;
- .2 Compliance certificates from applicable authorities;
- .4 Correct all discrepancies before Departmental Representative will issue the Certificate of Completion.

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- 1.1 SECTION INCLUDES .1 Project Record Documents.
- 1.2 RELATED SECTIONS .1 Section 01 33 00 - Submittal Procedures
.2 Section 01 77 00 - Closeout Procedures
- 1.3 PROJECT RECORD DOCUMENTS .1 Departmental Representative will provide 2 white print sets of contract drawings and 2 copies of Specifications Manual specifically for "as-built" purposes.
.2 Maintain at site one set of the contract drawings and specification to record actual as-built site conditions.
.3 Maintain up-to-date, real time as-built drawings and specifications in good condition and make available for inspection by the Departmental Representative upon request.
.4 As-Built Drawings:
.1 Record changes in red ink on the prints. Mark only on one set of prints and at completion of work, neatly transfer notations to second set (also by use of red ink).
.2 Submit both sets to Departmental Representative prior to application for Certificate of Substantial Performance.
.3 Stamp all drawings with "As-Built Drawings". Label and place Contractor's signature and date.
.4 Show all modifications, substitutions and deviations from what is shown on the contract drawings or in specifications.
.5 As-built Specifications: legibly mark in red each item to record actual construction.
.6 Maintain As-built documents current as the contract progresses. Departmental Representative will conduct reviews and

Diesel Fuel Storage
System Upgrades
Point Escuminac
Light Station
Point Escuminac, NB
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CLOSEOUT SUBMITTALS

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inspections of the documents on a regular basis. Failure to maintain as-builts current and complete to satisfaction of the Departmental Representative shall be subject to financial penalties in the form of progress payment reductions and holdback assessments.

<u>1.1 RELATED SECTIONS</u>	.1	Section 01 10 10 - General Instructions
	.2	Section 33 65 13 - Petroleum System Distribution
<u>2.1 MAINTENANCE DATA</u>	.1	Not Applicable
<u>3.1 PRODUCTS</u>	.1	<u>Aboveground Steel Tank Fuel Oil System - ULC S670</u>

The Contractor is required to supply and install two new, 909 litre aboveground double-walled fiberglass CAN/ULC S670 or equal shop fabricated fuel oil storage tanks. The tanks are to come complete with the following:

- tank decals indicating storage capacity and product stored
- ULC identification tag
- overflow prevention (vent whistle) installed on one tank only as indicated on the contract drawing.
- mechanical tank gauge
- support saddles
- laminated dip chart

Tank Fitting Requirements:

- 4 x 2" (50 mm) dia. top fittings
- 1 interstitial space access top fitting
- 1 x 2" (50 mm) bottom, end tank connection

Approved tank manufacturers are Vilco product code D202 (Note: Additional Fittings Required) or equal.

4.1 SUBMITTALS

- .1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedure.

5.1 INSTALLATION

- .1 As per; CSA B139 Installation Code for Oil Burning Equipment, National Fire Code of Canada, and manufacturer's recommendations and specifications.
- .2 Position tank using manufacturer approved methods and manufacturer's supplied lifting lugs.
- .3 Test tanks as per manufacturer's specifications.

6.1 INSTALLER
CERTIFICATION

- .1 Installer shall be a certified petroleum installer licensed with New Brunswick Department of Environment and Local Government.

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- 1.1 RELATED SECTIONS
- .1 Section 01 10 10 - General Instructions
 - .2 Section 33 56 13 - Fuel Storage Tank Aboveground
- 1.2 REFERENCES
- .1 ANSI/ASME B16.11, Forged Fittings, Socket-Welding and Threaded.
 - .2 ANSI/ASME B16.3, Malleable Iron Threaded Fittings: Classes 150 and 300.
 - .3 ANSI/ASME B16.39, Malleable Iron Threaded Pipe Unions: Classes 150, 250 and 300.
 - .4 ASTM B88, Standard Specification for Seamless Copper Water Tube.
 - .5 ASTM A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - .6 ASTM A106, Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service.
 - .7 All codes and standards are to be latest editions unless noted otherwise.
- 1.3 SUBMITTALS
- .1 Submit shop drawings in accordance with Section 01 33 00 Submittal Procedure.

2.1 PIPING

- .1 Pipe:
 - .1 Carbon steel:
 - .2 75 mm and smaller: Schedule 40 Seamless to ASTM A-106 Gr. B, or ASTM A-53 Gr. B, Type S.
- .2 Pipe:
 - .1 Copper:
 - .2 Type L, hard drawn copper tubing - jacketed.
 - .3 Standard of Acceptance: Protec jacketed or equal.
- .3 Fittings:
 - .1 Carbon steel:
 - .2 50 mm and smaller: ANSI/ASME B16.3, ASTM A-105, ANSI B16.11 and B1.20.1, threaded or socket welded.
- .4 Joints:
 - .1 Buried: Not applicable.
 - .2 Aboveground: welded joints conforming to provincial, federal and municipal regulations or requirements of CSA W47.1 and; threaded joints using compound approved by Consultant for product being handled (socket welded joints are permissible).
 - .3 Copper: Brass-flared fittings
 - .4 All pipe ends to be properly prepared, de-burred and free from defects prior to making joints.
- .5 Flexibility:
 - .1 Incorporate into construction as required.
- .6 Corrosion and product protection:
 - .1 All black steel piping, and fittings shall be surface prepared and painted (1 coat epoxy primer, 2 coats epoxy enamel).

- 2.2 VALVES .1 Ball valves:
.1 50 mm and smaller, 150 WOG Rating
minimum, steel, threaded ends, 2-piece
design, full bore, fire tested to API
607.
Standard of Acceptance: Velan EE-1000.
- 2.3 SPILL
CONTAINMENT BOX .1 Spill Containment Box:
.1 3.5 gallon, 2" (50 mm) NPT, white.
Standard of Acceptance: Pomoco/OPW 6221-
ASTW32.
- 2.4 Monitoring
System .1 Monitoring System:
.1 Console: suitable for use in diesel fuel
handling environment, RS-232
communications interface, continuous tank
level monitoring, audible and display
alarms, integral output relays, site fax
modem, ethernet card.
Standard of Acceptance: Veeder Root TLS-
300I.
.2 Tank Level Monitor: 50mm (2")
diesel/water float kit and riser, capable
of measuring fuel level through full
range of fuel height, probe height to
suit. Local audible and visual alarm at
90% maximum fuel level. External output
signal via monitoring console to DFO CCG
communications equipment (24volts DC, 2
amp, max) at 50% of maximum fuel level or
less and at 25% of maximum fuel level or
less.

Standard of Acceptance: Veeder Root Mag
Plus Probe.

- 2.5 IDENTIFICATION .1 Valves: identify with tags, octagonal anodized aluminum, red, with green circle for combustible liquid, flammable liquids resistant, fireproof, permanently inscribed with clear legible characters.
- 2.6 ANCHORS AND GUIDES .1 As indicated on drawings.
- 2.7 HANDLING .1 Protect and shield pre-coated equipment and piping.
- 2.8 COATING .1 Shop application of primer to prefabricated piping sections.
- .2 Reprime shop primed pipe with approved primer before coating.
- .3 All piping to be primed with 2 top coats of white epoxy enamel.
- 2.9 PROTECTION .1 Included in the design.
- 2.10 LOCATION OF PIPING .1 As indicated or for small bore piping not shown on layout drawings, locate so that it will not constitute hazard to personnel or equipment.
- 2.11 VALVES .1 Install valves to control flow and to isolate equipment as indicated.
- 2.12 FLUSHING AND TESTING OF PIPE SYSTEMS .1 Dispose of flushing liquids to approval of authority having jurisdiction.
- .2 Isolate the above-ground storage tank from piping system pressure tests.
- .3 Test piping systems with compressed air as per piping manufacture's recommendations.

.4 Test steel piping systems with compressed air to ensure no leaks in accordance with CSA B139.1.0 Series 15.

.5 All testing (methods, results) to be documented in reports and submitted to the Owner.

2.13 INSTALLER
CERTIFICATION

.1 Installer shall be a certified petroleum installer licensed with New Brunswick Department of Environment and Local Government.