

**SPECIFICATIONS FOR
APPROACH REPAIRS
SILVER WATER, ONTARIO**



Department of Fisheries & Oceans
Small Craft Harbours Branch
Burlington, Ontario

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01 11 05 – GENERAL INSTRUCTIONS

General

DESCRIPTION OF WORK

- Part 1 The site of work is the Silver Water Harbour in Silver Water, Ontario. Silver Water harbour is located in Cook's Bay on the north side of Manitoulin Island.
- 1.1 The work under this contract covers:
- .1 .1 Removal and storage of rock on east and west sides of the existing gravel approach.
 - .2 .2 Excavation to remove native fill and other existing material outside proposed limits of the new gravel approach.
 - .3 .3 Addition of gravel to the existing approach and grading of the new surface.
 - .4 .4 Construction of new stone revetment slopes on the east and west sides of the new gravel approach.
 - .5 .5 Dredging of Class "B" material from Area A as indicated on drawings, and disposal of material off-site.
- .3 The work to be done by the Contractor under this Contract shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, insurance, and all things necessary for and incidental to the satisfactory performance and completion of all work as specified herein. All work to be done in accordance with details shown on the accompanying plans as specified herein.
- 1.2 **DEFINITIONS**
- .1 The word "provide" means "supply and install".
 - .2 For purposes of this contract, "Departmental Representative", "Architect/Engineer" and "Engineer" shall have the same meaning.
- 1.3 **WORK SCHEDULE**
- .1 Provide within 10 working days after Contract award, schedule showing anticipated progress stages and final completion of work within time period required by contract documents.
 - .2 Interim reviews of work progress based on work schedule will be conducted as decided by Engineer and schedule updated by Contractor in conjunction with and to approval of Engineer.
 - .3 Work under this contract is to be performed in a timely manner. Commence planning and preparatory work immediately upon receipt of official notification of acceptance of Contract and schedule the work so that the project will be complete within the specified time frame.
 - .4 Work sequence:
 - .1 Before work is undertaken, ensure that all materials and trades required are available to finish work in as short a period as possible.

- .2 No area to be renovated shall be placed out of service until it is confirmed that there shall be no need to stop the work waiting for receipt of materials, equipment or labour.

CERTIFICATES AND TRANSCRIPTS

Immediately after award of Contract, submit Workers' Compensation Board status.

FEES, PERMITS AND CERTIFICATES

- 1.4 .1 Provide authorities having jurisdiction with information requested.
- 1.5 Pay fees and obtain certificates and work permits required.
- .1 Furnish certificates and permits when requested.

MEASUREMENT FOR PAYMENT

- 1.6 .1 Notify Engineer sufficiently in advance of operations to permit required measurements for payment.
- .2 Submit to Engineer, at least 14 days before Information for first application for payment, cost breakdown, Progress Payment in detail as directed by Engineer, for parts of Work, aggregating total amount of Contract Price, so as to facilitate evaluation of applications for payment. After approval by Engineer, cost breakdown will be used as basis for progress payments.

INTERPRETATION OF DOCUMENTS

- 1.7 .1 In the event of discrepancies or conflicts in interpreting the Plans (drawings) and Specifications, Specifications take precedence over drawings bound with specifications.
- .2 Drawings and specifications are complementary. When work is shown or mentioned on the drawings but is not indicated in the specifications, or when work is indicated in the specifications but is not shown or mentioned on the drawings, it shall nevertheless be included in the Contract.
- .3 The sub-division of the Specification into sections, identified by title and number, is for convenience only and does not modify the singularity of the document, nor does it operate to make or imply that the Engineer is an arbiter to establish the limits or extent of contract between Contractor and Subcontractors or to determine the limits or extents of work that may be decided by trade unions or contractors' organizations. Extras to the Contract will not be considered on the grounds of differences in interpretation of the Specification and/or Drawings as to which trade performs the work.

- 1.8 .1 Do not scale off drawings.

CONTRACTOR'S USE OF SITE

- .4 Co-ordinate use of premises under direction of the Engineer.
- Do not unreasonably encumber the site with materials and equipment.
- Assume full responsibility for protection and safekeeping of products under this Contract.
- Move stored products or equipment which interfere with operations of Engineer or other harbour users.

Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

.5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Engineer.

.6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

.7
.8 Hoard-off construction site with suitable safety fences and signage to prevent access to the construction area by public.

.9 **EXISTING SERVICES**

1.9 Notify Engineer and utility companies of intended interruption of services and obtain required permission.

.1 Where work involves breaking into or connecting to existing services, give Engineer 72 hours notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions.

.2
.3 Establish location and extent of service lines in area of work, if there are any services (none anticipated) before starting Work. Notify Engineer of findings.

.4 Submit schedule to and obtain approval from Engineer for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.5 Where unknown services are encountered, immediately advise Engineer and confirm findings in writing.

.6 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

1.10 Record locations of maintained, re-routed and abandoned service lines.

.1 **DOCUMENTS REQUIRED**

Maintain at job site, one copy each document as follows:

.1 Contract Drawings.

.2 Specifications.

.3 Addenda.

.4 Reviewed Shop Drawings.

.5 Change Orders.

.6 Other Modifications to Contract.

.7 Copy of Approved Work Schedule.

.8 Health and Safety Plan and Other Safety Related Documents.

.9 Other documents as specified.

CODES AND STANDARDS

Perform work in accordance with National Building Code of Canada (NBC) and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.

- 1.11 .1 Work to meet or exceed requirements of contract documents, specified standards, codes and referenced documents.

PROJECT MEETINGS

- 1.12 .2 Engineer will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

SETTING OUT OF WORK

- 1.13 .1 Engineer will provide only those survey control points and set such stakes as necessary to define general location, alignment and elevations of work. Give engineer reasonable notice of requirements for such control points and stakes.
- .2 Set grades and lay out work in detail from control points and grades established by Engineer.
- .3 Provide devices needed to lay out and construct work.
- .4 Supply such devices needed to lay out and construct work.
- .5 Supply such devices as straight edges and templates required to facilitate Engineer's inspection of work.
- .6 Supply stakes and other survey markers required for laying out work.

ADDITIONAL DRAWINGS

- 1.14 .1 Engineer may furnish additional drawings for clarification. These additional drawings have same meaning and intent as if they were included with plans referred to in Contract documents.
- .2 When additional drawings and instructions are required by the Contractor, provide reasonable notice in writing to the Engineer in advance of the date they are required.
- 1.15

EXAMINATION

- 1.16 .1 Before submitting tender, examine existing conditions and determine conditions affecting work.
- .1 .2 Obtain all information which may be necessary for proper execution of Contract.

SITE INSPECTION

- 1.17 .1 The submission of a tender is deemed to be a confirmation of the fact that the Tenderer has inspected the site and is fully conversant with all the conditions under which the work is to be carried out.
- .2

MATERIAL AND EQUIPMENT

Use new products unless otherwise specified.

Deliver and store material and equipment to manufacturer's instructions with manufacturer's labels and seals intact.

- .3 When material or equipment specified by standard performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, stating that material or equipment meets or exceeds specified requirements.

SECURING WORK AREA

Secure the work areas in each stage in an approved manner. This includes fencing or barricades to prevent public access to any areas where construction activities occur and construction materials are stored.

1.18

.1

DRAWINGS

The following drawings are to be read in conjunction with this specification:

1.19

.1

.1 MA-01: Existing Site and Structure Conditions

.2

.2 MA-02 : Proposed Repairs

DATUM

1.20

.1

Elevations and soundings shown on drawings are expressed in metres relative to chart datum.

.2

Chart datum for Lake Huron is 176.0 metres I.G.L.D (1985).

1.21

.1

OVERLOADING

No part of Work shall be loaded with load which will endanger its safety or will cause permanent deformation.

.2

Repair to original condition any part of work damaged due to overloading at no cost to Engineer.

1.22

.1

TAXES

Pay applicable Federal, Provincial and Municipal taxes.

Part 2

2.1

.1

Products

NOT USED

Part 3

Not used.

3.1

.1

Execution

NOT USED

Not used.

END OF SECTION

01 35 29 – HEALTH AND SAFETY REQUIREMENTS

General

MEASUREMENT FOR PAYMENT

Part 1 No measurement will be made under this Section.

1.1 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
1.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 .1 Material Safety Data Sheets (MSDS).

.2 Province of Ontario

.3 .1 The Occupational Health and Safety Act and Regulations for Construction Projects, revised statutes of Ontario 1990, Chapter 0.1 as amended, O.Reg. 213/91 as amended by O.Reg. 631/94, O.Reg. 143/99, O.Reg. 571/99, O.Reg. 145/00, O.Reg. 527/00. R.R.O. 1990, Reg. 834, O. Reg. 278/05 (Asbestos – Construction), O. Reg. 845/90 (Silica) as amended by O. Reg. 521/92 and O. Reg. 391/00.

.2 Workplace Safety and Insurance Act, 1997.

.3 Municipal statutes and authorities.

1.3

SUBMITTALS

.1 Submit site-specific Health and Safety Plan, to the Engineer, within 10 days of the Notice to Proceed and prior to commencement of Work.

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation.

.3 Measures and controls to be implemented to address identified safety hazards and risks.

.4 Provide a Fire and Safety Plan in accordance with NBC, subsection 8.2.3 prior to commencement of work. Deliver two copies of the Fire Safety Plan to the Engineer not later than 14 days before commencing work.

.5 Contractor's and Sub-contractors' Safety Communication Plan.

.2 .6 Contingency and Emergency Response Plan addressing standard operating procedures specific to the project site to be implemented during emergency situations.
.3
.4

Submit copies of incident and accident reports to the Engineer.

Submit WHMIS MSDS – Material Safety Data Sheets to Engineer.

The Engineer will review Contractor's site-specific Health and Safety Plan and provide comments to the Contractor, if any. Revise the plan as appropriate and resubmit plan to the Engineer within 5 days after receipt of comments from the Engineer.

The Engineer's review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.5 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

Submit records of Contractor's Safety Meetings when requested.

.6 Submit 2 copies of the Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative, when requested.

.7 Submit copies of reports or directions issued by safety inspectors of authority having
.8 jurisdiction.

.9 Submit names of personnel and alternatives responsible for site safety and health.

.10 Submit WSIB – Workplace Safety and Insurance Board, Experience Rating Report for
.11 Province of Ontario.

FILING OF NOTICE

1.4 File Notice of Project with Provincial authorities prior to beginning of Work.

MEETINGS

1.5 Pre-construction meeting: schedule and administer Health and Safety meeting with
.1 Departmental Representative prior to commencement of work.

SAFETY ASSESSMENT

1.6 Perform site specific safety hazard assessment related to project.
.1

GENERAL REQUIREMENTS

1.7 Develop written site-specific Health and Safety Plan based on hazard assessment prior to
.1 beginning site Work and continue to implement, maintain, and enforce plan until final
.2 demobilization from site. Health and Safety Plan must address project specifications.

.3 Observe and enforce construction safety measures required by Canadian Construction
Safety Code, Provincial Government, Worker's Compensation Board and municipal
statutes and authorities.

1.8 In the event of a conflict between any provisions of above, authorities having the most
stringent provision will apply.

REGULATORY REQUIREMENTS

.1 Comply with Acts and regulations of the Province of Ontario.

.2 Comply with specified standards and regulations to ensure safe operations at site.

.3 In event of conflict between any provisions of specified standards and regulations, the
most stringent provision governs.

COMPLIANCE REQUIREMENTS

Comply with Ontario Occupational Health and Safety Act. R.S.O. 1990 Chapter 0.1, as amended.

1.9 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

1.10

.1 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

.2

UNFORSEEN HAZARDS

1.11

.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, immediately stop work and follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of the Province having jurisdiction. Advise Engineer verbally and in writing.

HEALTH AND SAFETY CO-ORDINATOR

1.12

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have working knowledge of occupational safety and health regulations.

.2 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.13

.4 Be on site during execution of Work.

.1

POSTING OF DOCUMENTS

1.14

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with the Departmental Representative verbally and in writing.

.1

CORRECTION OF NON-COMPLIANCE

.2

Immediately address health and safety non-compliance issues identified by authority having jurisdiction or the Departmental Representative.

.3

Provide the Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.

The Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

WORK STOPPAGE

Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

1.15

.1

Assign responsibility and obligation to Competent Supervisor to stop or start Work when, at Health and Safety Coordinator's Competent Supervisor's discretion, it is necessary or advisable for reasons of health or safety. Departmental Representative may also stop Work for health and safety considerations.

.2

BLASTING

.1

Blasting or other use of explosives is not permitted.

1.16

Products

Part 2

NOT USED

2.1

Not Used.

.1

Execution

Part 3

NOT USED

3.1

Not Used.

.1

END OF SECTION

01 35 43 – ENVIRONMENTAL PROTECTION - DREDGING

Part 1 General

GENERAL

The material to be dredged from Area A is classified as sand with some silt, gravel and cobbles.

1.1

.1 DISPOSAL OF MATERIALS

Dispose of dredged material upland and off Site.

3.2

.1 The Contractor may be required to temporarily suspend dredging operations if the turbidity plume from dredging activities adversely affects the quality of water at water intake pipes located in the area. Make no claim for delays resulting from the above.

.2

DREDGING SCHEDULE RESTRICTIONS

3.3

.1 No applicable restrictions.

FIRES

1.2

.1 Fires and burning of rubbish on site not permitted.

DRAINAGE

1.3

.1 Provide temporary drainage and pumping required to keep excavations and site free from water.

.2 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.

.3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4

.1 WORK ADJACENT TO WATERWAYS

.2 Construction equipment will enter and leave the lake at such a location and in such a manner that disturbance to the lakeshore is minimal.

.3 No construction debris from work activities will be allowed to enter the lake. The worksite must be cleaned daily. Every effort will be made to minimize the introduction of sediment to the lake during work activities.

.4 All materials and equipment used for the purpose of site preparation and project completion shall be operated, maintained, and stored in a manner that prevents any deleterious substance (e.g. petroleum products, silt etc.) from entering the water.

.5 Do not use waterway beds for borrow material.

.6 Remove debris by hand or with machinery operating from shore or a floating barge. Explosives are not to be used to remove debris

Waterways to be free of excavated fill, waste material and debris.

Design and construct temporary crossings to minimize erosion to waterways.

Do not skid logs or construction materials across waterways.

Avoid damage to shoreline.

Any impacts below ordinary high water mark that are not shown on the site plan are not permitted without written approval from the Engineer. Up to 30 days may be required for approval.

.8
.9
.10

Reclaim and restore disturbed areas to previous or better condition.

Areas used for stockpiling construction materials, including fill or other equipment storage will be well back from the edge of the water body and, if possible, in areas which have already been disturbed or are devoid of vegetation.

.11
.12

All required machinery should be supplied with appropriate spill containment kits as a precaution in the event of accidental fuel spills or hydraulic leaks. Additional kits should be available on site with the capacity to contain any spills of deleterious substances that may be reasonably expected to occur. Contractors should ensure that all personnel are familiar with the spill kits.

.13

The Contractor shall report spills of fuels or other contaminants to the Engineer.

.14
.15

The Contractor shall not remove, destroy or disturb species pursuant to Provincial Threatened Endangered and Extirpated Species regulation, or species listed in the federal Species At Risk Act.

.16

The Contractor shall not disturb migratory bird nests.

1.5

POLLUTION CONTROL

.1
.2
.3
.4
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.7
.8
.9
.10
.11
.12

Control emissions from equipment and plant to local authorities' emission requirements.

Prevent sandblasting and other extraneous materials from contaminating air and waterways beyond application area.

Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

Locate temporary fuel storage 100 metres from shore and comply with Provincial Environmental Legislation.

Refueling, servicing, or cleaning of equipment on ice or within 100 metres of shore is prohibited. Contractor to ensure all equipment operating on project is free of external fluid leaks, grease, oil, and mud.

Contractor to contain all oil leaks from equipment working adjacent to waterways.

No maintenance of vehicles or equipment in construction areas.

Use drip pans to catch leaking oil from compressors, pumps, etc.

Keep an emergency spill kit for in-water use on site during construction.

Disposal of wastes

Do not bury rubbish and waste materials on site unless approved by Engineer.

Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways. Hazardous wastes including fuels, oils and lubricants to be disposed of by a licensed hazardous waste carrier/handler in accordance with Provincial Environment Legislation.

Amass all rubbish and waste material and dispose of in accordance with applicable governing authorities.

.13 The Contractor shall dispose of non-reusable construction debris and solid waste from construction at a waste disposal ground operating under the authority of a permit under Provincial regulation.

.14 Do not allow debris of any type to enter waterway.

PLANT PROTECTION

.15 Protect trees and plants on site and adjacent properties.

1.6 .1 Avoid disturbance of topsoil and vegetation unless otherwise specified. Contractor is responsible to restore all impacted areas to original state.

.2 The Contractor shall revegetate soil in areas exposed by construction with vegetation species native to the area. These areas shall be revegetated as quickly as possible following construction to prevent soil erosion and establishment of noxious weeds.
.3

VERTICAL SILT CURTAIN

3.4 .1 The Contractor is to isolate the work area from the lake with an approved silt curtain to prevent the drift of sediment from the work area into the lake. The silt curtain must extend from the top of the water to within 300mm of the lake bottom. The silt curtain must be left in place until all suspended sediments are settled out. On completion of the project carefully remove silt curtain to ensure settled sediment is not disturbed. Costs for supply, installation, maintenance, and removal will be considered part of the lump sum arrangement.

.2 Silt curtain geosynthetics shall have a grab tensile strength of at least 990 N, meeting CAN/CGSB 148.1, No. 7.3 and be one of geotextile or geomembrane.

.3 Silt curtain floatation shall be a material that has sufficient buoyancy to provide the curtain with continuous support and a minimum of 50 mm freeboard.

.5 Silt curtain ballast shall be minimum 8 mm steel chain.

.6 Silt curtains shall be free of tears and gaps.

Construction shall be monitored to ensure that the mitigation measures are effective at containing the sediment. Adjustments may have to be made to ensure the containment is functioning properly.

2.1

Part 2 Products

NOT USED

3.1 .1 Not Used.

Part 3 Execution

NOT USED

.1 Not Used.

END OF SECTION

01 45 00 – QUALITY CONTROL

General

MEASUREMENT FOR PAYMENT

Part 1 No measurement will be made under this Section.

1.1 **INSPECTION**

.1 Allow the Engineer access to the Work. If part of the Work is in preparation at locations other than the Place of Work, allow access to such Work whenever it is in progress.

1.2

.1 Give timely notice requesting inspection if the Work is designated for special tests, inspections or approvals by the Engineer.

.2 The Engineer will order part of the Work to be examined if the Work is suspected to be not in accordance with the Contract Documents. If, upon examination such work is found not in accordance with the Contract Documents, correct such Work and pay cost of examination and correction.

.3

INDEPENDENT INSPECTION AGENCIES

1.3

.1 Independent Inspection/Testing Agencies may be engaged by the Engineer for purpose of inspecting and/or testing portions of the Work.

.2 Provide equipment required for executing inspection and testing by appointed agencies.

.3 Employment of inspection/testing agencies does not relax responsibility to perform the Work in accordance with the Contract Documents.

.4

If defects are revealed during inspection and/or testing, the appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct the defect and irregularities as advised by the Engineer at no additional cost. Pay costs for retesting and re-inspection.

1.4

.1

ACCESS TO WORK

.2 Allow inspection/testing agencies access to the Work, off site manufacturing and fabrication plants.

1.5

.1 Co-operate to provide reasonable facilities for such access.

PROCEDURES

.2 Notify the Engineer in advance of requirement for tests, in order that attendance arrangements can be made.

.3

Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

REJECTED WORK

Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Engineer as failing to conform to the Contract Documents. Replace or re-execute, in accordance with the Contract Documents.

1.6

.1 Make good other Contractor's work damaged by such removals or replacements promptly.

.2 If in opinion of the Engineer it is not expedient to correct the defective Work or the Work is not performed in accordance with the Contract Documents, Owner will deduct from Contract Price the difference in value between the Work performed and that called for by the Contract Documents, the amount of which will be determined by the Engineer.

.3

TESTS AND MIX DESIGNS

Furnish test results and mix designs as requested.

1.7

MILL TESTS

Submit mill test certificates as requested.

1.8

.1

Products

Part 2

NOT USED

2.1

.1 Not Used.

Execution

Part 3

NOT USED

3.1

.1 Not Used.

END OF SECTION

01 52 00 – TEMPORARY FACILITIES - DREDGING

Part 1 General

ACCESS

Provide and maintain adequate access to and exit from Project Site.

Provide snow removal for temporary access throughout the period of Work.

1.1

.1 If authorized to use existing roads for access to Project Site, maintain such roads for duration of Contract and make good damage resulting from Contractor's use of roads.

.2

.3 Make good damage to any existing land, roads, vegetation, or structures resulting from Contractor's equipment and operations. Restore to original condition at no additional cost to departmental representative

.4

Contractor to restrict all activities to within the Work areas shown. Provide additional Work and storage areas at own cost.

.5

EQUIPMENT, TOOL AND MATERIALS STORAGE

1.2

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.3

SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.4

CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

.3 Store materials resulting from demolition activities that are salvageable.

.4 Stack stored new or salvaged material not in construction facilities.

END OF SECTION

01 77 00 – CLOSEOUT PROCEDURES

ADMINISTRATIVE REQUIREMENTS

Part 1 Acceptance of Work Procedures:

- 1.1 .1 Contractor's Inspection: Contractor to conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
- 1.1 .2 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Engineer.
 - .2 When Work incomplete according to Engineer, complete outstanding items and request re-inspection.
- 1.1 .3 Final Payment:
 - .1 When Engineer considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
- 1.1 .4 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.2 **FINAL CLEANING**

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

1.3 **RECORD DRAWINGS**

- .1 Maintain project “as-built” record drawings and record accurately significant deviations from Contract documents caused by site conditions and changes ordered by Engineer.
- .2
- .3 Mark “as-built” changes in red coloured ink.
- .4 Record the following information:
 - .1 Field changes of dimension and detail.
 - .2 Changes made by Change Order or Field Order.

Part 2 At completion of project and prior to final inspection, neatly transfer “as-built” notations to second set and submit both sets to Engineer.

- 2.1 .1

Products

NOT USED

Not Used.

Execution

NOT USED

Not Used.

Part 3

3.1

.1

END OF SECTION

02 41 13 – SELECTIVE SITE DEMOLITION

General

DESCRIPTION

Part 1 Removal and storage of stone on east and west sides of existing approach.

- 1.1 Careful removal and storage of DFO-Small Craft Harbours sign located on east side of existing approach. Sign to be reinstalled on existing concrete base after completion of construction.
- .1
- .2

MEASUREMENT FOR PAYMENT

- 1.2 Mobilization, demobilization, all materials and work required for the demolition, removal and disposal of all components identified on the drawings and as specified are considered part of the lump sum arrangement.
- .1

DELIVERY, STORAGE AND HANDLING

- 1.3 Storage and Protection.
- .1
- .1 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Engineer and at no cost to Engineer.
- .2 Remove and store materials to be salvaged, in manner to prevent damage.
- .3 Store and protect in accordance with requirements for maximum preservation of material.
- .4 Handle salvaged materials as new materials.

1.4

.1 **SITE CONDITIONS**

Site Environmental Requirements.

- .1 Ensure that selective demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- Part 2 .2 Ensure proper disposal procedures are maintained throughout the project.

2.1

.1 **Products**

NOT USED

Part 3

- 3.1 Not Used.

.1

Execution

PREPARATION

Inspect site and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.

Locate and protect utilities. Preserve active utilities traversing site in operating condition.
Notify and obtain approval of utility companies before starting demolition, if any services are found at the site.

.2 **REMOVAL OPERATIONS**

.3 Remove items as indicated.

Do not disturb items designated to remain in place.

3.2

Remove and stockpile stone protection. Contractor will be responsible for storage of stone until it is reinstalled.

.1

.2

.3 **REMOVAL FROM SITE**

Dispose of materials not designated for salvage or re-use in work, off-site at location acceptable to Engineer.

3.3

.1

RESTORATION

Remove debris, trim surfaces and leave work site clean, upon completion of Work.

3.4

.1

Reinstate areas and existing works outside areas of demolition to conditions that existed prior to commencement of work.

.2

END OF SECTION

31 23 33 - EXCAVATING, TRENCHING AND BACKFILLING

General

REFERENCES

- Part 1 Ontario Provincial Standard Specifications(OPSS)/Ontario Ministry of Transportation
- 1.1 .1 OPSS 1004 November 2006, Ontario Provincial Standard Specification, Material Specification for Aggregates - Miscellaneous.
- .1 .2 OPSS 1010 April 2004, Ontario Provincial Standard Specification, Material Specification for Aggregates - Base, Subbase, Select Subgrade, and Backfill Material.

UTILITY LINES

- 1.2 Record locations of if any of maintained, re-routed and abandoned underground utility lines.
- .1 Make good damage to existing underground utilities resulting from work.
- .2

MEASUREMENT FOR PAYMENT

- 1.3 .1 Excavation for the installation of all granular material is to be included as part of the Lump Sum Item.
- .2 Native Fill is part of the Lump Sum Item and shall include all labour, equipment and materials necessary to complete the excavating, stockpiling and (if required) backfilling of suitable native material.
- .3 Disposal of surplus native fill legally off site is considered included in the excavation and backfilling of Native Fill.
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- .5 Supply and installation of new Granular A material for the new approach will be paid for by the tonne supplied, installed, compacted and remaining in work.
- .6 Existing displaced armour stone to be salvaged and reinstalled as indicated on the drawings shall be included in the Lump Sum Item and not measured separately for payment.
- .7 Core stone will be measured by tonnes of material supplied and placed to the final dimensions indicated on the drawings and incorporated into the completed work and shall include all labour, equipment and materials necessary to complete the work.
- .8 Armour stone will be measured by tonnes of material supplied and placed to the final dimensions indicated on the drawings and incorporated into the completed work and shall include all labour, equipment and materials necessary to complete the work.
- Weigh all stone placed in the Work at the quarry on a scale approved and certified as correct by the Department of Consumer and Corporate Affairs Weights and Measures Inspection Branch. Prior to use, have weigh scale certified as meeting requirements of Statutes of Canada, Chapter 36, Weights and Measures Act 1971 and subsequent amendments. Provide the Departmental Representative with a copy of the certificate and display certificate in prominent location. Costs for maintenance and operation of scale shall be considered incidental to the work.

Provide the Departmental Representative with weigh tickets at time of delivery to site.

Contractor to make own arrangements with Provincial authorities, municipalities and owners of private properties, for the quarrying and transportation of rock materials and machinery for work over their property, roads or streets.

.9 Supply and installation of silt fence barrier and vertical silt curtain are considered
.10 incidental to the work and will not be measured separately for payment.

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SUBMITTALS

Submit to Engineer for approval, two weeks before excavation, the proposed location of spoil area for excavated material.

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SOURCE SAMPLING

Inform Engineer of proposed source of materials and provide access for sampling at least 2 weeks prior to commencing work

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DEFINITIONS

Not used

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Part 2

Products

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MATERIALS

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Contractor to provide all materials.

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Armour stone:

.1 The largest dimension of each stone is not to exceed two times the smallest dimension.

.2 Armour stone: 1.0 to 2.0 tonnes each by weight.

.3 Stones are to be fractured and angular. Field stone is not acceptable.

.4 The Armour stone is to be free from cracks, seams and other defects which may impair durability. The Los Angeles abrasion loss determined using ASTM procedures shall not exceed 35%. The armour rock shall be durable, blasted limestone or granite. Slate and shale are not acceptable.

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Core stone:

.1 The largest dimension of each stone is not to exceed three times the smallest dimension.

.2 Quarry Run Core Stone: 2.7kg to 180kg each by weight, shovel run material for core, with 60% of the total volume to be at the midpoint of the specified size range, and not more than a maximum 5% content less than 25mm.

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.3 Material is to be free of roots and other deleterious material.

Granular A: to Ontario Provincial Standard Specification 1010. Maximum size 19.0 mm

Native Fill: excavated soil, free from roots and debris. Departmental Representative to approve excavated material before use as backfill if backfilling is required.

Execution

EXCAVATING

- Part 3 .1 Clear and Grub existing vegetation to the east of existing gravel approach as indicated.
- .2 Excavate to lines, grades, elevations and dimensions shown on drawings.
- 3.1 .3 Excavate and stockpile native fill from work area for reuse in new work.
- .4 Dispose of surplus and unsuitable excavated material off site.

BACKFILLING

- 3.2 .1 Areas backfilled to be free from debris, snow, ice, water or frozen ground.
- .2 Locate areas where existing shoreline is within limits of new gravel approach. Backfill with native fill to extend shoreline to limits.
- .3 Backfill approach to elevations, lines, grades shown on drawings using native fill.
- .4 Place Granular A on approach to details indicated.
- .5 Place Core Stone to details indicated.
- .6 Place Armour Stone to details indicated. Place each armour stone in stable position.
- .7 Sort, fit and tightly key each rock to ensure stability of faces.

SITE TOLERANCES

- 3.3 .1 Finished base surface to be within plus or minus 10 mm of established grade and cross section but not uniformly high or low
- .2 Complete component layers to be within following tolerances of lines and grades as indicated:
 - .1 Armour: plus or minus 300 mm.
 - 3.4 .2 Core: plus or minus 150 mm.

PROTECTION

Maintain finished granular surface in condition conforming to this section until granular surfacing is accepted by Engineer.

END OF SECTION

35 20 23 - DREDGING

General

DEFINITIONS

- Part 1 Dredging: excavating, transporting and disposing of underwater materials.
- 1.1 Class "A" material: solid rock requiring drilling and blasting to loosen, and boulders or rock fragments of individual volumes 1.5m^3 ; or more.
- .1 Class "B" material: loose or shale rock, silt, sand, quick sand, mud, shingle, gravel, clay,
- .2 sand, gumbo, boulders, hardpan and debris of individual volumes less than 1.5m^3 ;
- .3 Obstructions: material other than class A, having individual volumes of 1.5m^3 ; or more.
- .4 Debris: pieces of wood, wire rope, scrap steel, pieces of concrete and other waste
- .5 materials.
- .6 Grade: plane above which material is to be dredged.
- .7 Estimated quantity: Volume of material calculated to be above grade and within specified
- .8 side slopes unless otherwise specified.
- .9 Areas in square metres of material calculated horizontally to exist above grade and within
- .10 dredge limits, unless otherwise specified.
- .11 Side slope: inclined surface or plane from grade depth at side limit of dredging area to
- .12 intersect original ground line outside of side limit and to be expressed as ratio of
- .13 horizontal to vertical.
- .14 CMPM: Cubic metres place measurement at dredging site.
- .15 CMSM: Cubic metres scow measurement.
- .16 SQM: Area in square metres projected on horizontal plane.
- .17 Box Cut: Dredging channel area with vertical side slopes and allowing side slope of
- .18 excavation collapse to a natural equilibrium slope.
- .19 Cleared Area: Area of dredging accepted as complying with plans and specifications.
- .20 Mechanical Sweep: Clearing all the dredged areas to the grade depth using a mechanical
- .21 device suspended from a barge.
- .22 Chart Datum: permanently established plane from which soundings or tide heights are
- .23 referenced, usually Lowest Normal Tide (LNT).
- .24 Universal Transverse Mercator Projection (UTM) or Modified Transverse Mercator
- .25 Projection (MTM) Co-ordinates: plane rectangular coordinates used in grid system in
- .26 which grid network is applied to UTM. or MTM. projection. Horizontal control
- .27 information as indicated.
- .28 Mechanical Dredging Plant: Equipment that is comprised of the following: clamshell,
- .29 dragline, dipper, or backhoe dredge with dump scows.

Hydraulic Dredging Plant: Equipment that uses the movement of water to excavate and transport underwater materials such as: cutter suction dredger, suction dredger or trailing suction hopper dredger.

Lowest Normal Tide (LNT): plane so low that tide will seldom fall below it.

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REFERENCES

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Transport Canada:

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.1 TP 10739 Collision Regulations, Office Consolidation, 2008.

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.2 Transportation of Dangerous Goods Act, 1992.

Department of Justice Canada:

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.1 Explosives Act, 2009.

Department of Fisheries and Oceans, Canada:

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.1 Wright, D.G., and G.E. Hopky. 1998. Guidelines for the use of explosives in or near Canadian fisheries waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107: iv + 34p.

LOCATION

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Area A is located immediately to the east of the existing wharf structure, and has approximate dimensions 7.5m x 31.6m. The surface area is approximately 237m².

1.4

INTERFERENCE WITH NAVIGATION

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Navigation co-ordination:

.1 Be familiar with vessel movements and fishery activities in area affected by dredging operations. Plan and execute Work in manner that will not interfere with fishing operations, marina operations, construction activities at wharf sites, or access to wharves by land or water.

.2 Departmental Representative will not be responsible for loss of time, equipment, material or any other cost related to interference with moored vessels in harbour or due to other Contractor's operations.

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.3 Keep District Manager, Canadian Coast Guard, Fisheries and Oceans, informed of dredging operations in order that necessary Notices to Mariners will be issued.

REQUIREMENTS OF REGULATORY AGENCIES

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Mark floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.

Comply with municipal, provincial and national codes and regulations relating to project.

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Blasting of bedrock to Guidelines for Use of Explosives In or Near Canadian Fishing Waters, by Fisheries and Oceans Canada, latest update.

SITE INFORMATION

Area A consists primarily of Class "B" material, comprised of sand and some silt. The estimated quantity for removal is approximately 250m³.

Results of prior soundings are made available for tendering purposes only. It should be noted that this information may differ from site condition. Take this into consideration when submitting tender.

.2 Contractor to visit and inspect work site and become thoroughly familiar with extent and nature of Work and conditions affecting Work before tendering.

.3 Take necessary steps to become fully familiar with potential inclement weather and lake conditions in this area.

Survey requirements:

.4 .1 Provide, at own expense, survey equipment and crew to set up and maintain control for location of dredge limits and to sound areas immediately after dredging to verify that grade depth has been attained to approval of Departmental Representative.

PRICE AND PAYMENT PROCEDURES

1.7 .1 Measurement and Payment:

.1 Costs for Mobilization and Demobilization of dredging equipment. Removal and disposal of dredged material, including all machinery required to grade the materials at the (disposal location), and site clean-up shall be included in the Lump Sum arrangement.

.2 Dredging: Costs for removal of Class "B" material shall be included in the Lump Sum Arrangement and will not be measured separately for payment.

.3 Only material excavated above grade plane and within side slopes indicated or specified will be measured.

.4 Operations in connection with field positioning of dredging equipment will not be measured separately for payment.

.5 No separate payment will be made for Contractor's survey vessel, equipment and crew or diving services.

.6 Payment will include disposal of dredge material, at locations specified.

.7 No additional payment for delays incurred during fishing seasons and during periods when no dredging is permitted.

.8 No additional payment for downtime and for delays caused by vessel traffic.

.9 Removal of infilling material will not be measured for payment.

.10 Mobilization and demobilization of dredging equipment to be lump sum.

.11 No separate payment will be made for sweeping.

.2 Scheduling:

.1 Submit to Departmental Representative within two weeks after award of Contract, schedule of work including time periods during which each operation involved in Work will be undertaken. At time of submission of schedule, meet with Departmental Representative to review schedule.

.2 Adhere to schedule and take immediate action to correct any slippage by effectively altering existing dredging operations or mobilizing other equipment. Notify Departmental Representative of corrective action to be taken.

QUALITY ASSURANCE

- 1.8 .1 Floating plant:
- .1 Dredges or other floating plants to be employed on this Work, to be of Canadian registry, make or manufacture, or, must receive certificate of qualification from Industry Canada, Marine Directorate and this certificate to accompany Tender submission.
 - .2 Requests for certification in format of attached questionnaire to be directed to Director, Defense and Marine, Directorate, Industry Canada, 235 Queen Street, 7th Floor, East Tower, Ottawa, Ontario, K1A 0H5, and to be received there not less than 14 days prior to [bid] closing.

Part 2 Products

DREDGING EQUIPMENT

- 2.1 .1 Contractor to determine required equipment necessary to dredge material specified and to dispose of dredged material at the following location:
- .1 Area A, immediately east of the existing wharf structure.
 - .2 Area B, directly north of the existing concrete launch ramp.

Part 3 Execution

3.1

EXAMINATION

- .1 Verification of location:
- .1 Work comprises:
 - .1 Dredging of a 97.5 m² area (Area A) as indicated in the attached drawings to a depth 1.5 metres below Chart Datum (elevation of 174.5m, where Chart Datum is 176.0m).
 - .2 Dredging of a 44m² area (Area B) as indicated in the attached drawings to a depth 1.2 metres below Chart Datum (elevation of 174.8m).
 - .2 Surveys and acceptance of work:
 - .1 As soon as practical after Contract award, Departmental Representative will provide pre-dredge survey of dredge area locations.
 - .2 No area will be dredged prior to Departmental Representative's and Contractor's mutual acceptance of pre-dredge survey for that area.
 - .3 Post-dredge survey will be undertaken by Departmental Representative upon completion of dredging. Survey will confirm if dredging is completed as specified and whether area can be considered cleared area.
 - .4 Contractor to re-dredge as necessary to remove all material within dredge areas which is found to be above grade.

- .5 One additional survey will be undertaken at Departmental Representative's cost, for those areas not meeting acceptance criteria for dredging. Additional surveys required to clear areas will be undertaken by Departmental Representative at Contractor's cost.

DREDGING

- 3.2
- .1 Place and maintain buoys, markers and lights required to define work and disposal areas.
 - .2 Lay out Work from bench marks established by Departmental Representative. Be responsible for accuracy of Work relative to established bench marks. Provide and maintain electronic position fixing and distance measuring equipment, laser transits and such other equipment as normally required for accurate dredging control.
 - .3 Areas to be dredged are to be referenced to vertical bench marks for each location of dredging as indicated.
 - .4 Chart datum for soundings indicated is 176.0m.
 - .5 Establish and maintain water level gauges in order that proper depth of dredging can be determined. Locate gauges so as to be clearly visible.
 - .6 Establish and maintain on-land targets for location and definition of designated dredge area limits. Targets to be suitable for control of dredging operations and locating soundings. Remove targets on completion of Work.
 - .7 Dredge Area A (estimated quantity of 250 m³) to grade depth of 173.6m (2.4m below Chart Datum), as shown on the attached drawings.
 - .8 Dredge side slopes to 2:1 horizontal to vertical.
 - .9 Remove materials above specified grade depths, within limits indicated. Material removed from below subgrade depth or outside specified area or side slope is not part of Work.
 - .10 Remove shoaling which occurs as result of Work at no expense to Departmental Representative.
 - .11 Remove material cast-over on surrounding area and dispose of it as dredged material. Do not cast-over material unless authorized by Departmental Representative.
 - .12 Immediately notify Departmental Representative upon encountering object which might be classified as obstruction. By-pass object after clearly marking its location and continue Work.
 - 3.3 .13 Tolerances:
 - .1 Do not dredge material from areas lying within 1m of existing structure unless authorized by Departmental Representative.

SITE QUALITY CONTROL

- .1 Site test and inspections:
 - .1 Co-operate with Departmental Representative on inspection of Work and provide assistance requested.
 - .2 Upon request of Departmental Representative, furnish use of such boats, equipment, labour and materials forming ordinary and usual part of dredging

plant as may be reasonably necessary to inspect and supervise Work. Volume of material transported in partially filled scows will be determined by Departmental Representative.

- .3 Sweep dredged areas on completion of dredging to confirm that grade depth has been achieved.
- .4 Sweeping equipment to consist of heavy steel beam suspended from scow at required grade depth. Beam to be capable of adjustment and calibration and approved by Departmental Representative.
- .2 Non-conforming work:
 - .1 If, as result of incomplete Work, additional verification of depths by sounding or sweeping becomes necessary, additional costs involved shall be paid by Contractor.
 - .2 Re-dredge unsatisfactory Work and verify depths with additional sounding or sweeping to approval of Departmental Representative.

CLEANING

- 3.4 .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .3 Waste Management: separate waste materials for reuse and recycling:
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
 - .2 Metals, wood and recyclable materials removed during the dredging activities must be diverted appropriate recycling facilities.
 - .3 Dispose of dredged material by depositing in disposal areas indicated in manner approved by Departmental Representative.

3.5

.1 REPAIRS TO EXISTING DOCKS AND BUILDINGS

Contractor is responsible to make good and repairs for existing wharf, docks, launch ramp, utilities, and buildings at no cost to the owner..

END OF SECTION