

Hartland Boat Launch Upgrades

Owner: Town of Hartland, NB

Tender No. HL2026-03

Specification

Set No. _____

Address all Inquiries to:

Chris Travis
Glenn Group Ltd.
248 Brunswick Street
Fredericton, NB E3B 1G9

Telephone No: (506) 455-2473
Fax: (506) 459-2685
Email: ctravis@glenngroup.ca

April 2026

Part 1 GENERAL

1.1 SUMMARY OF WORK

.1 Section Includes:

- .1 Title and description of work: Construction of new boat launch overtop of the existing, Flexicrete blocks, anchor dowels, geogrid/geotextile, scour protection, new abutment for dock system, minor adjustments to gravel roadway leading to launch as necessary.

1.2 SCOPE OF WORK

- .1 This contract covers the total performance of the work to the description and intent of the contract documents listed in the table of contents bound in with this Specification Tender Form. This contract will include but not be limited to construction of:

- .1 All sitework, and concrete work noted in construction documents.

1.3 PROJECT COORDINATION

- .1 The Contractor is to submit and receive approval from the Consultant a Site Access Management Plan prior to any work being carried out on Site, comply with the DTIR Safety Regulations. Contractor is to minimize disruptions to the Public and the Owner of property to which access is given. All efforts shall be made to minimize impacts to the site and natural environment. All work to be co-ordinated with Consultant. Contractor to provide flagperson to direct traffic as required.
- .2 During Excavation an archaeologist (paid for by the owner) will be present on site during excavation. The contractor will need to schedule works accordingly, present schedule at start of meeting and provide 2 weeks notice prior to starting work.
- .3 Contractor to sign, from water side and land side that boat ramp is under construction. Floating barriers.
- .4 Contractor to flag or paint extents of work on ground and have consultant verify.

1.4 PROJECT MEETINGS

.1 Administrative:

- .1 Schedule and administer project progress meetings throughout progress of work.

1.5 SUBMITTALS

.1 Administrative:

- .1 Prior to start of work on site, submit and receive approval from Consultant a Site Access Management Plan showing how the work of this contract is to be carried out in relation to not disturbing the surrounding areas.
- .2 Verify field measurements and affected adjacent work are co-ordinated.

.2 Record Drawings:

- .1 After award of Contract, Consultant will provide two sets of white prints for purpose of maintaining record drawings. Maintain one set on site and accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant marking changes in red.
- .2 Identify drawings as "Project Record Copy". Maintain in new condition and make available for inspection on site by Consultant.
- .3 On completion of Work and prior to final inspection, transfer all notations to second set and submit record documents to Consultant.

1.6 SCHEDULE

- .1 The works will be completed by August 1, 2026.
- .2 Schedules Required.
 - .1 Site Access Management Plan.
 - .2 Construction Progress Schedule.
- .3 Submission.
 - .1 Submit initial schedules within 15 days after award of Contract.

1.7 FIELD ENGINEERING

- .1 Survey Points.
 - .1 Consultant will provide control point information for Contractor.
 - .2 Locate and protect control points prior to starting site work. Preserve permanent reference points during construction.

1.8 QUALITY CONTROL

- .1 Inspection:
 - .1 Consultant shall have access to the work.
 - .2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant, instructions, or law of Place of the Work.
 - .3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

1.9 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- .1 Disposal of excess fill:
 - .1 The Contractor is to be responsible to respect all environmental and transportation laws and requirements on this site. The Contractor is to dump, level and grade to avoid water runoff onto adjacent property all fill disposed of on this property.
- .2 Site storage:
 - .1 Confine the Work and operations of employees to limits of Contract Documents. Do not unreasonably encumber premises with Construction Materials or Products.

- .3 Sanitary facilities:
 - .1 Contractor to provide sufficient sanitary facilities for workers in accordance with local health authorities.
 - .2 Maintain in clean condition.
- .4 Construction parking:
 - .1 Parking will be permitted on site provided it does not disrupt the performance of the work, users, or neighbouring property owners.
- .5 Project cleanliness:
 - .1 Maintain the Work in tidy condition, free from accumulation of waste products and debris.
 - .2 Remove waste material and debris from site and deposit in waste container at end of each working day.
 - .3 Clean areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.
 - .4 Burning and/or burial of rubbish and waste materials is **not** allowed.
- .6 Site offices:
 - .1 Optional, not required.
- .7 Flagperson (s):
 - .1 Contractor to provide certified flagperson (s) as required for the duration of the Contract.

1.10 PROJECT CLOSEOUT

- .1 Final cleaning:
 - .1 When the Work is Substantially Performed, remove surplus products, tools construction machinery and equipment not required for performance for remaining work.
 - .2 Leave work clean before inspection process commences.
 - .3 Remove waste materials and debris from site at regularly scheduled times or dispose of as directed by Consultant. Do not burn waste materials on site.
- .2 Documents:
 - .1 Submit material prior to final Application for Payment.
 - .2 Submit record (as-built) and survey drawings.
 - .3 Provide warranties and bonds fully executed and notarized.
 - .4 Execute transition of Performance and Labour and Materials Payment Bond to warranty period requirements.
 - .5 Submit a final statement of accounting giving total adjusted Contract Price, previous payments, and monies remaining due.
 - .6 Consultant will issue a final change order reflecting approved adjustments to Contract Price not previously made.
- .3 Inspection/takeover procedures:

- .1 Prior to application for certificate of Substantial Performance, carefully inspect the Work and ensure it is complete, that major and minor construction deficiencies are complete, defects are corrected, and site is clean and in condition for occupancy. Notify Consultant in writing, of satisfactory completion of the Work and request an inspection.
- .2 During Consultant inspection, a list of deficiencies and defects will be tabulated. Correct same.
- .3 When Consultant considers deficiencies and defects have been corrected and it appears requirements of Contract have been performed, make application for certificate of Substantial Performance.

1.11 SPECIAL CONDITIONS

- .1 Contractor is responsible to submit and receive approval for a Site Access Management Plan submit to Consultant. This approval is required prior to any work being carried out on site.

Part 2 PRODUCTS

- .1 N/A

Part 3 EXECUTION

- .1 N/A

END SECTION

BID CALL
HARTLAND BOAT LAUNCH UPGRADES
HARTLAND, NB

Sealed envelopes marked “**TENDER NO. HL2026-03 “HARTLAND BOAT LAUNCH UPGRADES”**” will be received at the office of Town of Hartland 31 Orser St, Hartland NB E7P 1R4, until **3:00 pm local time, April 17th, 2026**. The name of the Bidding firm shall also be indicated on the envelope. Opening of the tenders shall be private.

OR

Electronic submission, subject line to read “**TENDER NO. HL2026-03 “HARTLAND BOAT LAUNCH UPGRADES”**” will be received by Michelle Derrah, at 2023hartland@gmail.com at the same time specified above. Electronic submissions shall be transmitted in accordance with the requirements noted above. The Bidder is solely responsible for ensuring that the complete submission is successfully delivered, received, and accessible by the Owner at the designated email address prior to the closing time. The Owner shall not be responsible for, and will not consider, submissions that are corrupted, incomplete, unreadable, exceed file size limitations, are delivered to an incorrect address, or are otherwise inaccessible for any reason. Any risk associated with electronic transmission, including but not limited to technical failures, file compatibility issues, or transmission errors, rests entirely with the Bidder. Submissions that cannot be opened, reviewed, or fully evaluated by the Owner at the time of closing may be rejected without further consideration.

Bids must be received in full at the designated receiving email address prior to **3:00:00 p.m. local time on April 17, 2026**, as determined by the timestamp on the Owner’s receiving system. The time of transmission or sending by the Bidder will not be considered. Any submission received after this deadline, regardless of cause, including but not limited to transmission delays, file size, or technical issues, will be rejected.

Mandatory Site Meeting: A mandatory site meeting will be held for all prospective bidders on April 8, 2026 at 11:00 AM at the Hartland Visitor Information Center - 365 Main Street.

Questions and Addenda: All inquiries and requests for clarification must be submitted to the Consultant no later than April 13, 2026. Responses to all submitted questions will be issued by the Consultant in the form of addenda on or before April 14, 2026.

Tender opening will not be public, results will be posted within 3 business days.

Each Tender must be accompanied by Bid Bonds or Certified Cheque in the amount of 10% of the Tendered Price (including HST). The successful bidder will be required to provide Performance Securities in the form of a Certified Cheque or Bond as specified in the Bid Documents.

The owner will consider the “Tendered Price” as identified in the bid form. The Owner holds the right to accept portions, or all of the prices as indicated on the bid form.

The lowest or any bid will not necessarily be accepted.

CHRISTOPHER TRAVIS,
GLENN GROUP LTD.

Section Number	Section Title	No. of Pages
00 00 00	Cover Page	1
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END OF SECTION

Number	Title
1	Plan Structural
2	Structural Details
3	Structural Details
4	Design Notes

END OF SECTION

Part 1 General

1.1 INVITATION

- .1 Bid Call:
 - .1 Ensure offers are signed and dated and are received as noted in the bid call.
 - .2 Intent of this Bid call is to obtain an offer to perform Work located at Hartland Boat Launch and along the downhill slope in Hartland, in accordance with Contract Documents as prepared by Glenn Group Ltd. It is intended that all work covered by this project be paid on a stipulated lump sum basis.

1.2 CONTRACT/BID DOCUMENTS

- .1 Definitions:
 - .1 Contract Document: defined in CCDC 2-2020 Definitions with General Conditions.
 - .2 Bid Document: Contract Documents supplemented with Instructions to Bidders, Bid Form, Bid Securities, and Bid Appendices.
- .2 Examination:
 - .1 Immediately notify Consultant upon finding discrepancies or omissions in Bid Documents.
- .3 Queries/Addenda:
 - .1 Direct all technical questions and all questions concerning terms and conditions to Chris Travis – ctravis@glenngroup.ca.
 - .2 Addenda may be issued during Bidding period. Addenda will become part of Contract Documents. Include costs of any Addenda items in Bid Price.
 - .3 Bidders must sign addenda and include a copy in the Bid envelope.
 - .4 Clarifications requested by Bidders must be in writing not less than seven days before date set for receipt of Bids. Reply will be in form of an addendum. Copy of addendum will be forwarded to Bidders registered with the Consultant as having Contract Documents. No other interpretation or explanation will be considered valid.

1.3 SITE ASSESSMENT

- .1 Site Examination:
 - .1 All bidders should conduct a site visit to familiarize themselves with the location of the work.
 - .2 Existing traffic control systems should be evaluated and reviewed.

1.4 PERMITS AND REGULATIONS

- .1 A wawa permit has been obtained and is attached.
- .2 The owner will provide the building permit prior to the start of work.

- .3 The owner will make an archeologist available during excavation as required.

1.5 **BID SUBMISSION**

- .1 Submissions:
- .1 Public tender.
 - .2 Bidders are solely responsible for delivery of their Bids in manner and time prescribed.
 - .3 See Bid Call 00 01 00
 - .4 Tenders received after the time and date specified shall be rejected.
 - .5 Submit one copy of executed offer on Bid Forms provided, signed and with required security in sealed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on outside.

1.6 **BID ENCLOSURES/REQUIREMENTS**

- .1 Security Deposit:
- .1 Bids are to be accompanied by Bid Bonds or Certified Cheque in amount of 10 percent of Tendered price (including HST) **endorsed in the name of Town of Hartland** Endorse Bid Bonds in the name of **Town of Hartland** signed by the Contractor and surety.
 - .2 Procure bonds and insurance from a New Brunswick resident agent of an insurance company licensed to do business in New Brunswick. Provide letter from agent stating that bonding has been negotiated for, procured from and the premiums paid to the agent.
- .2 Consent of Surety / Performance Assurance:
- .1 Submit with the Bid Form and Bid Bond, a Consent of Surety stating that the surety providing the Bid Bond is willing to supply the required Performance Bond and Labour and Material Payment Bond in the event that the Bid is accepted.
 - .2 The successful Bidder shall, within the time specified in the Contract Documents, provide:
 - .1 Performance Bond in the amount of 50% of the Contract Price; and
 - .2 Labour and Material Payment Bond in the amount of 50% of the Contract Price.
 - .3 All costs associated with bonding shall be included in the Tender Price. Include cost of bonds in Tender Price.
 - .4 Where Bid Security is provided in the form of a Certified Cheque, such security will be returned to the successful Bidder upon execution of the Contract and submission of the required Performance Bond and Labour and Material Payment Bond.
- .3 Bid Form Requirements:

- .1 Bidder, in submitting an offer, accepts time period stated in Contract documents for performing Work. Completion date in Agreement shall be the date stated in Section 00 00 01 General Requirements.
- .2 The commencement date is the day the bidder receives written notification of Bid Acceptance.
- .4 Bid Signing:
 - .1 Bid Form to be signed by Bidder.

1.7 OFFER ACCEPTANCE/ REJECTION

- .1 Duration of Offer:
 - .1 Bids to remain open to acceptance and irrevocable for 60 days after Bid closing date.
- .2 Acceptance of Offer:
 - .1 Owner reserves right to award in its best interest. Tender with the lowest price or any need not necessarily be accepted. Information included in the Contractors Qualification Statement will be an integral part of the evaluation process. **The Owner reserves the right to check references listed and may also perform other background checks. The Owner reserves the right to award to a bidder other than the lowest bidder based on factors including quality, delivery and price. The Owner will consider factors such as:**
 - .1 **Qualifications of contractors, subcontractors, and project superintendent / foreman.**
 - .2 **Past performance.**
 - .3 **Delivery on time is critical to the Owner's Operations.**
 - .4 **Total overall cost to the Owner.**
 - .2 After acceptance by Owner, a written Bid acceptance will be forwarded to the successful bidder.

1.8 CONTRACTORS QUALIFICATION STATEMENT

- .1 A statement including a list and description of at least three projects executed by the Contractor of similar nature or construction type shall accompany the Bid. The projects listed shall have been executed within the last five years. The description shall include the name of the Owner and contact name, year completed, project superintendent/foreman, and a scope description in sufficient detail to describe the nature of work.
- .2 A list of subcontractors (if any) proposed to execute the work shall accompany the Bid. No substitution of these subcontractors shall be permitted without the approval of the Consultant.
- .3 The name and qualifications of the project superintendent/foreman shall accompany the Bid. No substitutions of this superintendent shall be permitted without the approval of the Consultant.
- .4 A list of the last three projects the superintendent/foreman worked on, along with references, must also be included.

1.9 PROPRIETARY INFORMATION

- .1 The Owner may reproduce any part of the Respondent's tender and supporting documents for internal use or any other purpose required by law.
- .2 If the Respondent includes proprietary information in the tender response, it must be marked as such. Glenn Group Ltd. will take all reasonable steps to prevent disclosure of this information, prior to the award.
- .3 Information about the Owner obtained by a Respondent through this Tender process must not be disclosed unless authorized by the Owner. It is agreed that this obligation of confidentiality will survive to the termination of the Tender and any contact that might arise between parties.

1.10 Insurance and Work Safe

The Contractor shall, at their own expense, obtain and maintain in good standing all insurance and workers' compensation coverage required to operate in the Province of New Brunswick. This shall include, at minimum, Commercial General Liability insurance in an amount not less than \$2,000,000 per occurrence, inclusive of bodily injury, property damage, and contractual liability, as well as automobile liability insurance for all owned and non-owned vehicles used in connection with the Work. The Contractor shall be registered with WorkSafeNB and shall maintain active workers' compensation coverage for all employees and applicable subcontractors in accordance with provincial requirements. Proof of insurance and a valid WorkSafeNB clearance certificate shall be submitted to the Consultant prior to commencement of Work and upon request throughout the duration of the Contract. Failure to maintain required coverage may result in suspension of the Work or termination of the Contract.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

TENDER NO. HL2026-03
HARTLAND BOAT LAUNCH UPGRADES
HARTLAND, NB

BID FORM Contractor's Qualifications (References; Subcontractors; and Project Superintendent/Foreman)

- It is essential that the Contractor fill out all sections of this page, providing the detail requested.
- If subcontractors are to be used, they must be listed. If subcontractors are not used, then the section should be noted as "not applicable – using own forces."
- The information submitted for all the sections will be used as part of the assessment of submissions for award.
- If information requested in the Contractor's Qualifications portion of the Bid Form is not provided, this will affect the award of the tender.
- Delivering materials to the construction site for construction is the responsibility of the Contractor.

**TENDER NO. HL2026-03
HARTLAND BOAT LAUNCH UPGRADES
HARTLAND, NB**

SUBMITTED TO: **Town of Hartland**

I/We _____
(Company Name)

(Business Address)

Having examined the bid documents as listed in Appendix "A" to this Bid, and Addenda No. ___ to No. ___ inclusive, all as issued by Glenn Group Ltd., acting on behalf of the Owner, and having visited the project site; hereby offer to enter into contract to perform the Work required by the Bid Documents for the stipulated price shown below. The price in Canadian funds includes all Federal, Provincial, and Municipal taxes in force at this date, all materials, labour, and equipment, and all permits and licenses as required for total completion of the work.

Our stipulated Lump Sum Price for the work, and all incidental items to the contract documents as listed below, **including the 15% HST** is:

_____ dollars
_____ cents \$ _____
(Figures)

Lump sum Price – Scope of work

To include all work listed in attached contract documents to be included in the lump sum price including necessary incidental work to ensure a complete project as envisioned by the contract documents.

APPENDICES TO BID:

The information provided in the attached Appendices forms an integral part of this Bid.

DECLARATIONS:

- a) We agree to complete all work associated with this project within the time limits outlined in the documents, work to start the work by June 15th 2026 and to complete all work by no later than **August 1st 2026.**
- b) This Bid is open to acceptance and is irrevocable for a period of sixty (60) days from the date of the bid closing.

SIGNATURES:

Signed and submitted for and on behalf of:

COMPANY:

(Name)

(Street Address or Postal Box Number)

(City, Province, & Postal Code)

(Telephone Number)

(Fax Number)

SIGNATURE

Name (Printed)

Title (Printed)

SIGNATURE OF WITNESS

Name (Printed)

Title (Printed)

Date: _____ day of _____, 2026

CONTRACTOR'S QUALIFICATIONS

References

Last three projects involving sitework, concrete completed within the last five years.

	Project Description	Owner, Contract Name, and Telephone Number	Year Completed	Project Superintendent/ Foreman
1.				
2.				
3.				

SUBCONTRACTORS

	Trade	Subcontractor
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

PROJECT SUPERINTENDENT/FOREMAN

Experience must be related to oversight of major construction projects over the value of 100,000 dollars. The experience must related to a supervisory role overseeing similar works. Preference will be given to superintendent who has experience working with commercial landscaping projects. An interview may be requested by the Owner to assess the foreman's capability prior to award.

Name: _____

Years of Construction Experience: _____

	Last Three Projects (Project Description)	Reference (Name and Telephone Number)
1.		
2.		
3.		

END SECTION

Part 1 Execution

1.1 STORAGE AND HANDLING OF FUELS AND DANGEROUS FLUIDS

- .1 Locate any fuel storage facility a minimum of 30 m from any water body in an area approved by the Consultant.
- .2 Fuelling or maintenance of vehicles will not be permitted within 30 m of any water body.
- .3 Maintenance of vehicles and equipment will be permitted in designated areas only, as directed by the Consultant.
- .4 Exercise care in the handling of fuel or dangerous fluids to minimize the potential for spills.
- .5 Report immediately any spills to the Consultant.
- .6 The Contractor is responsible for responding immediately to any spill to minimize environmental damage and for any cleanup or rehabilitation resulting from any spills to a level approved by the Consultant.
- .7 Proper use of hazardous substances will be undertaken to prevent contamination of the surrounding environment. Substances are to be stored and handled in ways to prevent their entry into waterways and contamination of soil and air.
- .8 Maintain emergency response equipment on site to deal with any potential accidental event.

1.2 REGULATORY REQUIREMENTS

- .1 comply with all applicable legislation and guidelines, including but not limited to:
 - .1 Province of New Brunswick environmental regulations.
 - .2 Federal requirements related to works in and near water
 - .3 Transport Canada – Navigation Protection Program requirements for works affecting navigable waters.
 - .4 Fisheries and Oceans Canada (DFO) requirements for works in and near fish habitat, including protection of salmon-bearing watercourses. All work shall be carried out in accordance with the Fisheries Act and applicable Measures to Protect Fish and Fish Habitat, including timing windows, sediment and erosion control, isolation of in-water work areas where required, and prevention of harmful alteration, disruption, or destruction (HADD) of fish habitat.
- .2 Do not commence work within or adjacent to watercourses until all required permits, approvals, and notifications have been obtained.
- .3 The Contractor is responsible for ensuring that all work does not impede, obstruct, or interfere with navigable waterways.

1.3 CUTTING TREES, SHRUBS AND WOODY VEGETATION

- .1 Restrict vegetation removal to areas indicated on drawings or as identified by the Consultant.
- .2 Protect roots to drip line during excavation and site grading, etc. to prevent disturbance or damage to protected vegetation. Prevent traffic, dumping or storage of materials over root zones of protected trees.
- .3 Dispose of any brush and shrub material off site.

1.4 GRUBBING, EXCAVATING, BURYING, GRADING

- .1 Stripping of topsoil will be permitted only in areas designated on drawings or as directed by the Consultant. Stockpile and conserve all topsoil as directed by the Consultant.
- .2 Dispose of all unsuitable material or excess material on site, in conformance with applicable regulations.
- .3 Cuts and fills carried out by the Contractor are to be properly stabilized to prevent erosion. Short-term erosion control techniques approved by the Consultant will be utilized in the interim until long term stabilization is established.
- .4 Utilize good construction techniques, as approved by the Consultant, in excavation and grading to minimize the potential for short-term erosion.
- .5 Install, inspect and maintain in proper working order temporary erosion, siltation and pollution control features as directed and approved by the Consultant. These devices are to be removed in the proper manner when directed by the Consultant.
- .6 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
- .7 Pumping of water containing silt in suspension into waterways or drainage systems is prohibited.
- .8 To minimize run-off, work on slopes or excavations may be halted during periods of heavy rainfall, as directed by the Consultant.

1.5 DISPOSAL OF WASTES

- .1 Dispose of all waste materials (including hazardous materials), containers, waste fluids, etc. in conformance with applicable regulations, off site.
- .2 All garbage must be stored and removed off site. Maintain the site in a tidy condition, free from accumulation of waste products, debris and litter.

1.6 BURNING

- .1 No fires permitted on site.

1.7 CONTRACTORS ACTIVITIES

- .1 Parking is available on site, fence site to protect the public from harm.
- .2 Confine all operations to the work limits as staked or as designated by the Consultant.
- .3 Conduct operations at all times in such a manner as to preserve the natural features and vegetation in the area. Cut and fill slopes shall be blended with adjoining topography. Material from cut and fill slopes or excavations will not be permitted to sluff or roll into surrounding tree cover or to bury any plant material designated to be retained.
- .4 Provide approved dust control measures as directed by the Consultant.
- .5 When, in the opinion of the Consultant, negligence on the part of the Contractor results in damage or destruction of vegetation or other environmental or aesthetic features beyond the staked or designated work area, the Contractor shall be responsible, at his expense, for restoration or rehabilitation to the satisfaction of the Consultant.
- .6 Provide adequate precautions (eg. signage, fencing, etc.) to ensure safety of travelling public adjacent to the site.
- .7 Conduct or permit attendance at briefing sessions for all employees and sub-contractor employees, highlighting the requirements of environmental protection specifications or mitigating measures.
- .8 The Contractor shall follow the "Code of Good Practice of General Construction".

1.8 SEDIMENTATION CONTROL

- .1 Contractor is to follow best construction practices for reducing the amount of sedimentation and escape of waste from site.
- .2 Use siltation fence to best construction practices. Place siltation fence at bottom of slopes where run-off can be expected. Provide Siltation fence around the perimeter of all stockpile locations.
- .3 Contractor is responsible for cleaning of vehicles prior to exiting site in a designated washing area.
- .4 Contractor to check all sediment control devices after rain events to ensure the structures are still functioning.

1.9 PERMITTING

- .1 WAWA Permit has been obtained and is attached to this specification.
- .2 Owner will provide building permit.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 31 22 13 – Rough Grading.
- .2 Section 31 32 19 - Geotextiles

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C-33-90, Standard Specification for Concrete Aggregates.
 - .2 ASTM C117-04, Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
 - .3 ASTM C136-05, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - .4 ASTM D422-632002, Standard Test Method for Particle-Size Analysis of Soils.
 - .5 ASTM D698-00ae1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ;) (600 kN-m/m ;).
 - .6 ASTM D1557-02e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ;) (2,700 kN-m/m ;).
 - .7 ASTM D4318-05, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
 - .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A3000-03, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .2 CSA-A3001-03, Cementitious Materials for Use in Concrete.
 - .3 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .4 U.S. Environmental Protection Agency (EPA)/Office of Water
 - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 DEFINITIONS

- .1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.
 - .1 Rock: solid material in excess of 1.00 m; and which cannot be removed by means of heavy-duty mechanical excavating equipment with 0.95 to 1.15 m³ bucket. Frozen material not classified as rock.

- .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
- .2 Unclassified excavation: excavation of deposits of whatever character encountered in Work.
- .3 Topsoil:
 - .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping, seeding and sodding.
 - .1 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 12 millimeters in any dimension.
 - .4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
 - .5 Borrow material: material obtained from locations outside area to be graded and required for construction of fill areas or for other portions of Work.
 - .6 Recycled fill material: material, considered inert, obtained from alternate sources and to meet requirements of fill areas.
 - .7 Unsuitable materials:
 - .1 Weak, chemically unstable, and compressible materials.
 - .2 Frost susceptible materials:
 - .1 Fine grained soils with plasticity index less than 10 when tested to ASTM D4318, and gradation within limits specified when tested to ASTM D422 and ASTM C136 : Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.
 - .2 Table:

Sieve Designation	% Passing
2.00 mm	100
0.10 mm	45 - 100
0.02 mm	10 - 80
0.005 mm	0 - 45
 - .3 Coarse grained soils containing more than 20 % by mass passing 0.075 mm sieve.
 - .8 Unshrinkable fill: very weak mixture of cement, concrete aggregates and water that resists settlement when placed in utility trenches, and capable of being readily excavated.

1.4 SUBMITTALS

- .1 Make submittals
- .2 Quality Control:
 - .1 Submit to Consultant written notice at least 7 days prior to excavation work, to ensure cross sections are taken.
- .3 Preconstruction Submittals:

- .1 Submit records of underground utility locates, indicating: location plan of existing utilities as found in field, clearance record from utility authority, location plan of relocated and abandoned services, as required.

1.5 QUALITY ASSURANCE

- .1 Qualification Statement: submit proof of insurance coverage for professional liability.
- .2 Submit design and supporting data at least 2 weeks prior to beginning Work.
- .3 Design and supporting data submitted to bear stamp and signature of qualified professional Engineer registered or licensed in New Brunswick, Canada.
- .4 Keep design and supporting data on site.
- .5 Engage services of qualified professional Engineer who is registered or licensed in New Brunswick, Canada in which Work is to be carried out to design and inspect cofferdams, shoring, bracing and underpinning required for Work.
- .6 Do not use soil material until written report of soil test results are reviewed and approved by Consultant.
- .7 Health and Safety Requirements:
 - .1 Do construction occupational health and safety in accordance with Division 1.

1.6 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Division 1.
- .2 Divert excess aggregate materials from landfill to local recycling facility for reuse as directed by Consultant.

1.7 EXISTING CONDITIONS

- .1 Buried services:
 - .1 Before commencing work verify and establish location of buried services on and adjacent to site.
 - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
 - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.
 - .4 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
 - .5 Prior to beginning excavation Work, notify applicable authorities having jurisdiction, establish location and state of use of buried utilities and structures. Authorities having jurisdiction to clearly mark such locations to prevent disturbance during Work.
 - .6 Confirm locations of buried utilities by careful test excavations or soil hydrovac methods.
 - .7 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered as indicated.

- .8 Where utility lines or structures exist in area of excavation, obtain direction of Engineer-Architect before removing or re-routing. Costs for such Work to be paid by Owner.
- .9 Record location of maintained, re-routed and abandoned underground lines.
- .10 Confirm locations of recent excavations adjacent to area of excavation.
- .2 Existing buildings and surface features:
 - .1 Conduct, with Consultant, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, pavement, survey bench marks and monuments which may be affected by Work.
 - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair as directed by Consultant. Contractor responsible for cost of repairs
 - .3 Where required for excavation, cut roots or branches as directed by Consultant.

Part 2 Products

2.1 MATERIALS

- .1 **Structural Fill:** properties to the following requirements:
 - .1 25mm crushed stone or gravel aggregate base.
 - .2 Gradations to be within limits specified when tested to ASTM C136 and ASTM C117. Sieve sizes to CAN/CGSB-8.1 CAN/CGSB-8.2.

Table:

Sieve	Designation	% Passing
100	mm	
90	mm	
75	mm	
63	mm	
50	mm	
37.5	mm	
31.5	mm	100
25	mm	95-100
19	mm	75-100
12.5	mm	60-82
9.5	mm	52-75
4.75	mm	36-61
2.36	mm	25-48
1.18	mm	16-36
300	µm	5-16
75	µm	0-6

- .2 **R25 Fill**

R25 riprap shall consist of durable, sound, angular quarried rock designed for erosion protection and slope stabilization. Material shall be well graded in accordance with the specified size distribution to ensure proper interlock and void structure, allowing for energy dissipation and drainage while resisting displacement under hydraulic forces. Rounded stones, shale, or other weak or friable materials will not be accepted. The riprap shall be free of excessive fines, organic matter, and debris, and shall be placed in a manner that produces a stable, tightly interlocked surface without segregation of particle sizes.

Stone Size	Percent Passing
380 mm	100%
330 mm	70–90%
260 mm	40–55%
120 mm	0–15%

.3 Geotextile – 600R

Geotextile shall be a non-woven, needle-punched geotextile equivalent to Terrafix 600R, designed for separation, filtration, and stabilization beneath riprap and granular materials. The fabric shall exhibit high permeability to allow for the free movement of water while preventing the migration of underlying soils into the overlying stone layer. Material shall be resistant to ultraviolet degradation, rot, and chemical breakdown, and shall maintain its structural integrity under installation and loading conditions. Geotextile shall be installed on a smooth, prepared subgrade, free of sharp objects, with overlaps as specified, and secured to prevent displacement during placement of overlying materials.

.4 Drainage stone,

Unfrozen and free from clay lumps, cementation, organic material, and other deleterious materials.

Sieve Designation	% Passing
60 mm	100
50 mm	90-100
25 mm	35-100
19 mm	15-85
12.5 mm	0-53
9.5 mm	0-30
4.75 mm	0-4
1.18 mm	0-2

Part 3 Execution

3.1 SITE PREPARATION

.1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.

- .2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.

3.2 PREPARATION/PROTECTION

- .1 Protect existing features in accordance with Division 1 and applicable local regulations.
- .2 Keep excavations clean, free of standing water, and loose soil.
- .3 Where soil is subject to significant volume change due to change in moisture content, cover and protect to Consultant approval.
- .4 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
- .5 Protect buried services that are required to remain undisturbed.

3.3 STOCKPILING

- .1 Stockpile fill materials in areas designated by Consultant.
 - .1 Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination.
- .3 Implement sufficient erosion and sediment control measures to prevent sediment release off construction boundaries and into water bodies.

3.4 COFFERDAMS, SHORING, BRACING AND UNDERPINNING

- .1 Maintain sides and slopes of excavations in safe condition by appropriate methods and in accordance with Division 1.
 - .1 Where conditions are unstable, Consultant to verify and advise methods.
- .2 Construct temporary Works to depths, heights and locations as directed by Consultant.
- .3 During backfill operation:
 - .1 Unless otherwise indicated or directed by Consultant, remove sheeting and shoring from excavations.
 - .2 Do not remove bracing until backfilling has reached respective levels of such bracing.
 - .3 Pull sheeting in increments that will ensure compacted backfill is maintained at elevation at least 500 mm above toe of sheeting.
- .4 When sheeting is required to remain in place, cut off tops at elevations as indicated.
- .5 Upon completion of substructure construction:
 - .1 Remove cofferdams, shoring and bracing.

3.5 EXCAVATION

- .1 Advise Consultant at least 7 days in advance of excavation operations for initial cross sections to be taken.
- .2 Excavate to lines, grades, elevations and dimensions as indicated.
- .3 Remove concrete, masonry, paving, walks, demolished foundations and rubble and other obstructions encountered during excavation in accordance with Division 2.
- .4 Excavation must not interfere with bearing capacity of adjacent foundations.
- .5 Do not disturb soil within branch spread of trees or shrubs that are to remain.
 - .1 If excavating through roots, excavate by hand and cut roots with sharp axe or saw.
- .6 For trench excavation, unless otherwise authorized by Consultant in writing, do not excavate more than 30 m of trench in advance of installation operations and do not leave open more than 15 m at end of day's operation.
- .7 Keep excavated and stockpiled materials safe distance away from edge of trench as directed by Engineer-Architect.
- .8 Restrict vehicle operations directly adjacent to open trenches.
- .9 Dispose of surplus and unsuitable excavated material in approved location on site.
- .10 Do not obstruct flow of surface drainage or natural watercourses.
- .11 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .12 Notify Consultant when bottom of excavation is reached.
- .13 Obtain Consultant approval of completed excavation.
- .14 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Consultant.
- .15 Correct unauthorized over-excavation as follows:
 - .1 Fill under support bearing surfaces and footings with concrete specified for footings.
 - .2 Fill under areas outside building footprint with Type 2 fill compacted to not less than 95 % of corrected Standard Proctor maximum dry density.
- .16 Hand trim, make firm and remove loose material and debris from excavations.
 - .1 Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.
 - .2 Clean out rock seams and fill with concrete mortar or grout to approval of Consultant.

3.6 BACKFILLING

- .1 Do not proceed with backfilling operations until completion of following:

- .1 Consultant has inspected and approved installations.
- .2 Consultant has inspected and approved construction below finish grade.
- .3 Inspection, testing, approval, and recording location of underground utilities.
- .4 Removal of concrete formwork.
- .5 Removal of shoring and bracing; backfilling of voids with satisfactory soil material.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Place backfill material in uniform layers not exceeding 300 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 Backfilling around installations:
 - .1 Place bedding and surround material as specified elsewhere.
 - .2 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.
 - .3 Place layers simultaneously on both sides of installed Work to equalize loading. Difference not to exceed 1 m.
 - .4 Where temporary unbalanced earth pressures are liable to develop on walls or other structures:
 - .1 Permit concrete to cure for minimum 14 days or until it has sufficient strength to withstand earth and compaction pressure and approval obtained from Consultant or:
 - .2 If approved by Consultant, erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Consultant.
- .6 Place unshrinkable or recycled fill in areas as indicated.
- .7 Consolidate and level unshrinkable fill with internal vibrators.

3.7 RESTORATION

- .1 Upon completion of Work, remove waste materials and debris in accordance to Division 1, trim slopes, and correct defects as directed by Consultant.
- .2 Replace topsoil as directed by Consultant.
- .3 Reinstate lawns to meet existing grades.
- .4 Reinstate pavements and sidewalks disturbed by excavation to thickness, structure and elevation which existed before excavation.
- .5 Clean and reinstate areas affected by Work as directed by Consultant.
- .6 Use temporary plating to support traffic loads over unshrinkable fill for initial 24 hours.
- .7 Protect newly graded areas from traffic and erosion and maintain free of trash or debris.

3.8 ADDITIONAL SECTIONS

- .1 Excavating trenching and backfilling specification shall include all work required for Division 26 & 33 to complete electrical trenching & backfilling operations.

END OF SECTION