

This specification outlines the requirements for demolishing, salvaging, recycling and removing ~~in whole or in part~~, various items designated to be removed or partially removed and for backfilling resulting trenches, holes and pits and the disposal of resulting materials.

PART 1 REFERENCES

This specification refers to the following standards, specifications, or publications:

Government of Newfoundland and Labrador, Department of Environment and Climate Change

Pollution Prevention Division, Asbestos Waste Disposal Guidance Document

Other

Province of Newfoundland and Labrador, Occupational Health and Safety Act, Amended

Province of Newfoundland and Labrador, Regulation 5/12, Occupational Health and Safety Regulations

National Building Code of Canada

PART 2 GENERAL

1.12.1 ADMINISTRATIVE REQUIREMENTS COORDINATION

- .1 Coordinate with the Owner for the material ownership including the following:
 - .1 Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from Project site.
 - .2 Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to the Owner that may be encountered during demolition remain the Owner's property:
 - .1 Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to the Owner.
 - .2 Coordinate with the Owner, who will establish special procedures for removal and salvage operations.

.2 Convene pre-demolition meeting one week prior to beginning work of this section to, with Owner and Owner's Representative in accordance with Section 01200 – Project Meetings to:

- .1 Verify project requirements.
- .2 Review installation and substrate conditions.
- .3 Verify existing site conditions adjacent to demolition work.
- .4 Coordinate with other construction sub trades.
- .5 Arrange for site visit with Owner to examine existing site conditions adjacent to demolition work, prior to start of Work.

.3 Hold project meetings every month.

- .1 Ensure key personnel, site supervisor, project manager, subcontractor representatives attend.

.4 Scheduling:

- .1 Employ necessary means to meet project timelines without compromising specified minimum rates of material diversion.
- .2 Notify Owner in writing when unforeseen delays occur.

2.2 SUBMITTALS

.1 Shop drawings

- .1 Submit in accordance with Section 01340 – Shop Drawings, Samples and Submissions.
- .2 Submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning, where required by authorities having jurisdiction.
- .3 Submit drawings stamped and signed by qualified professional engineer licensed in Province of Newfoundland and Labrador, Canada.

.2 Hazardous Materials: provide description of Hazardous Materials and Notification of Filing with proper authorities prior to beginning of Work as required.

.3 Submit plan indicating:

- .1 Descriptions of and anticipated quantities of materials to be salvaged, reused, recycled and landfilled.
- .2 Detailed sequence of selective site demolition and removal work, with starting and ending dates for each activity.
- .3 Number and location of dumpsters.
- .4 Anticipated frequency of tippage.
- .5 Interruption of utility services.

- .6 Coordination for shutoff, capping, and continuation of utility services.
- .7 Locations of temporary partitions and means of egress.
- .4 Submit copies of certified weigh bills, bills of landing from authorized disposal sites and reuse and recycling facilities for material removed from upon request from Owner.
- .5 Proposed Dust Control and Noise Control:
 - .1 Submit statement or drawing that indicates measures proposed for use, proposed locations, and proposed time frame for their operation.
- .6 Qualification Data:
 - .1 Submit information for companies and personnel indicating their capabilities and experience to perform work of this Section including but not limited to, lists of completed projects with project names and addresses, for work of similar complexity and extent.

2.3 QUALITY ASSURANCE

- .1 Regulatory Requirements: ensure Work is performed in compliance with applicable Provincial regulations.
- .2 Comply with hauling and disposal regulations of Authority Having Jurisdiction.

2.4 SITE CONDITIONS

- .1 Ensure Work is done in accordance with Section 01560 - Environmental Requirements.
- .2 Ensure Work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .3 Fires and burning of waste or materials is not permitted on site.
- .4 Burying of rubbish waste materials is not permitted.
- .5 Disposal of waste of volatile materials including but not limited to, mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers, is not permitted.
- .6 Ensure proper disposal procedures are maintained throughout the project.
- .7 Pumping of water containing suspended materials into watercourses, storm or sanitary sewers or onto adjacent properties, is not permitted.

- .8 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with authorities having jurisdiction.
- .9 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .10 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .11 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.
- .12 Conduct selective site demolition so Owner's operations will not be disrupted:
 - .1 Provide not less than 72 hours' notice to the Owner of activities that will affect operations.
 - .2 Maintain access to existing walkways, exits, and other adjacent occupied or used facilities. Closing or obstructing walkways, exits, or other occupied or used facilities without written permission from the Owner is not permitted.
- .13 The Owner assumes no responsibility for Selective Site elements being demolished:
 - .1 Conditions existing at time of inspection for bidding purpose will be maintained by the Owner as far as practical.
 - .2 Before selective site demolition, remove, protect and store salvaged items as directed by the Owner:
 - .1 Salvage items as identified by the Owner.
 - .2 Deliver to the Owner as directed.

1.22.5 EXISTING CONDITIONS

- .1 Prior to the start of any demolition work, remove from site contaminated or hazardous materials as defined by authorities having jurisdiction and dispose of at designated disposal facilities.
- .2 Site elements Take over structures to that will be demolished are based on their condition on date that tender bid is accepted.

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PART 2 PART 3 PRODUCTS

2.13.1 NOT APPLICABLE.

PART 3 PART 4 EXECUTION

4.1 EXAMINATION

- .1** Survey existing conditions and correlate with requirements indicated to determine extent of selective site demolition required.
- .2** Inspect site and verify with the Owner items designated for removal and items to be preserved.
- .3** Owner does not guarantee that existing conditions are the same as those indicated in Project Record Documents.
- .4** Inventory and record the condition of items being removed and salvaged.
- .5** When unanticipated mechanical, electrical, or structural elements are encountered, investigate and measure the nature and extent of the element. Promptly submit a written report to Owner.
- .6** Perform an engineering survey of condition of adjacent buildings to determine whether removing any site element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective site demolition operations.
- .7** Locate and protect utility lines. Preserve in operating condition active utilities traversing site. Notify utility companies before starting demolition.

3.14.2 PREPARATION & DISCONNECTION

.1 Temporary Erosion and Sedimentation Control:

- .1** Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- .2** Inspect, repair, and maintain erosion and sedimentation control measures during demolition.
- .3** Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal after completion of demolition work.

.1 Inspect site and verify with the Owner items designated for removal and items to be preserved.

.2 ~~Locate and protect utility lines. Preserve in operating condition active utilities traversing site. Notify utility companies before starting demolition.~~
Protection of in-place conditions:

- .1 ~~Work in accordance with Section 01560 Environmental Requirements, Erosion and Sedimentation Control Plan, and Stormwater Pollution Prevention Plan.~~
- .2 ~~Prevent movement, settlement or damage of adjacent structures, services, walks, paving, trees, landscaping, adjacent grades properties, and parts of existing building to remain.~~
 - .1 ~~Provide bracing, shoring and underpinning as required.~~
 - .2 ~~Repair damage caused by demolition as directed by Owner.~~
- .3 ~~Support affected site elements and, if safety of site element being demolished, or adjacent structures, or services appears to be endangered, take preventative measures, stop Work and immediately notify Owner.~~
- .4.4 ~~Prevent debris from blocking surface drainage system, elevators, mechanical and electrical systems which must remain in operation.~~

.3 Surface Preparation:

- .2.1 ~~Disconnect electrical and telephone service lines within the site entering buildings to be demolished in accordance with rules and regulations of authorities having jurisdiction. Post warning signs on electrical lines and equipment that must remain energized to serve other properties during period of demolition.~~
- .3.2 ~~Disconnect and cap mechanical services in accordance with requirements of local authority having jurisdiction.~~
 - .1 ~~Remove sewer and water lines to main line, or as directed by the Owner, and cap to prevent leakage.~~
 - .2 ~~Remove, cap and dispose of other underground services.~~

.3 Septic Tanks:

- .1 In accordance with authorities having jurisdiction:
 - .1 Pump out buried septic tanks, left in place. Fill with sand.
 - .4.2 Remove tanks within area of new construction or under paved areas and slabs.

3.24.3 REMOVAL OPERATIONS

- .1 Remove items indicated in contract documents.
- .2 Do not disturb items designated to remain in place.

.2.3 ~~In~~ Removal of pavements, curbs and gutters.

- .1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by Owner~~method~~.
- .2 Protect adjacent joints and load transfer devices.
- .3 Protect underlying granular materials.
- .4 Prevent contamination with base course aggregates when removing asphalt pavement for subsequent incorporation into hot mix asphalt concrete paving, in accordance with Section 02574 Reshaping & Patching Asphalt Pavement.

.4 ~~Excavation~~ XCAVATION

- .1 Excavation required for the work to be carried out under this section shall be performed in such a manner as:
 - .1 to leave undisturbed adjacent structures or other work to be left in place and,
 - .2 to save where necessary for purposes of backfill, the acceptable excavated materials.
- .2 Excavated material that is not required for the backfilling of the void resulting from the structure removal, shall be used for embankment construction or disposed of as set out elsewhere in the contract document.
- .3 Excavate at least 300 mm below pipe invert when removing pipes under existing or future pavement area.

.5 ~~Decommission water wells~~ and monitoring wells in accordance with Provincial guidelines and regulations.

.6 Stockpile topsoil for final grading and landscaping:

- .1 Provide erosion control and seeding if not immediately used.

.7 ~~Sealing~~ EALING

- .1 Seal pipe ends and walls of maintenance holes or catch basins where indicated or directed by the Owner. Securely plug to form a watertight seal.

.8 ~~Disposal of Material~~

- .1 Dispose of materials not designated for salvage or re-use in work, off-site, in accordance with Section 01005 – General Instructions..

.9 Backfill

- .1 Backfill in areas as indicated in accordance with Section 02223 – Excavating, Trenching & Backfilling.

3.34.4 STRUCTURE DEMOLITION

- .1 Demolish structures as indicated in the contract documents.
- .2 Demolish parts of building to permit construction of additional and remedial work as indicated.
- .3 Demolish **basement** foundations walls to minimum of 600 mm below finished grade beyond area of new construction.
- 4.4 Demolish foundation walls and footings, and concrete floors below or on grade as indicated within areas of new construction.
- .2.5 Break one 200 mm diameter hole per 500 m² area in concrete slabs below grade that are not to be removed, to prevent accumulation of water. Keep building drains open if permanent drainage still connected.
- .6 Pieces of concrete and masonry not larger than 200 mm broken from demolition work may be used as backfill in open basements or excavations provided voids are filled. Keep demolition fill 300 mm below finished grade level. Do not backfill basement areas until inspected by Owner.
- .7 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .8 At end of each day's work, leave work in safe conditions so that no part is in danger of toppling or falling. Protect interiors of parts not to be demolished from exterior elements at all times.
- .3.9 Demolish to minimize dusting. Keep materials wetted as directed by the Owner.
- .10 Demolish masonry and concrete walls in pieces suitable for reuse as specified small sections.
- .11 Carefully remove and lower structural framing and other heavy or large objects.
- .12 Contain all fibrous materials (e.g. Insulation) to minimize release of airborne fiber while being transported to waste disposal site or alternative disposal location.
- .13 Only dispose of material specified by selected alternative disposal option as directed by Owner.
- .14 Ensure that these materials will not be disposed of in landfill or waste stream destined for landfill.
- 4.15 Remove and dispose of demolished materials except where noted otherwise and in accordance with authorities having jurisdiction.

.16 Remove contaminated or dangerous materials as defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal and in accordance with regulatory agencies.

.17 Prior to the start of any demolition work remove contaminated or hazardous materials as defined by authorities having jurisdiction, from site and dispose of at designated disposal facilities.

.18 Prior to the start of any demolition work remove underground storage tanks and piping as directed.

.5.19 Use natural lighting to work by wherever possible. Shut off all lighting except those required for security purposes at the end of each day.

4.5 STOCKPILING

.1 Label stockpiles, indicating material type and quantity.

.2 Designate appropriate security resources/measures to prevent vandalism, damage and theft.

.3 Locate stockpiled materials convenient for use in new construction to eliminate double handling wherever possible.

.4 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing, or hauling procedures.

3.44.6 SALVAGE

.1 Carefully dismantle items containing materials indicated for salvage. Stockpile salvaged materials at locations directed or indicated.

.2 Where maintenance holes, catch basins, valve chambers, and ditch inlets are to be demolished, castings and riveted gratings conforming to this specification shall be removed and stockpiled for use elsewhere on the contract or delivered to the yard designated in the contract, when surplus to the contract requirements.

.2.3 Except as otherwise specified, concrete, and masonry, and asphalt may be used for rip-rap or embankment construction within the limits of the contract as directed by the Owner.

.3.4 Other materials when designated in the contract to be salvaged, shall be dismantled, stockpiled or otherwise handled as set out elsewhere within the contract.

3.51.1 EXCAVATION

.1 Excavation required for the work to be carried out under this section shall be performed in such a manner as:

.1 to leave undisturbed adjacent structures or other work to be left in place and,

.2.1 to save where necessary for purposes of backfill, the acceptable excavated materials.

.2.1 Excavated material that is not required for the backfilling of the void resulting from the structure removal, shall be used for embankment construction or disposed of as set out elsewhere in the contract document.

3.61.1 SEALING

.1 Seal pipe ends and walls of maintenance holes or catch basins where indicated or directed by the Owner. Securely plug to form a watertight seal.

3.7 DISPOSAL OF MATERIAL

.1 Dispose of materials not designated for salvage or re-use in work, off-site, in accordance with Section 01005.

.2.5 Trim disposal areas to condition satisfactory to the Owner.

.3.6 Except as otherwise specified, concrete and masonry may be used for rip rap or embankment construction within the limits of the contract as directed by the Owner. It shall be disposed of outside the right of way at locations arranged for by the Contractor when unsuitable or surplus to construction requirements.

.4.1 Timber, steel and materials other than concrete or masonry, that are not designated for salvage, shall become the property of the Contractor and shall be removed from the work.

.7 Asbestos Cement pipe removed shall be disposed of in accordance with the Newfoundland and Labrador Regulation 5/12 Occupational Health and Safety Regulations and the Department of Environment and Climate Change, Asbestos Waste Disposal Guidance Document.

4.7 REMOVAL FROM SITE

.1 Remove stockpiled material as directed by the Owner, when it interferes with operations of project.

.2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.

- .3 **Concrete and masonry** It shall be disposed of outside the right-of-way at locations arranged for by the Contractor when unsuitable or surplus to construction requirements.
- .4 **Timber, steel and materials other than concrete or masonry, that are not designated for salvage, shall become the property of the Contractor and shall be removed from the work.**
- .5 **Asbestos Cement pipe removed shall be disposed of in accordance with the Newfoundland and Labrador Regulation 5/12 Occupational Health and Safety Regulations and the Department of Environment and Climate Change, Asbestos Waste Disposal Guidance Document.**

3.8 **BACKFILL**

- .1 **Backfill in accordance with Section 02223.**

.6 **RESTORATION**

- .7 **Reinstate areas and existing works outside areas of demolition to match conditions of adjacent, undisturbed areas.**
- .8 **Use soil treatments and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.**

3.94.8 **CLEANING**

- .1 **Progress Cleaning: clean and reinstate in accordance with Section 01710 Reinstatement and Cleaning.**
- .2 **Upon completion of work, remove debris, trim surfaces and leave work site clean. Reinstate areas and existing works outside areas of demolition to adjacent, undisturbed areas.**
- .2.3 **Use cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.**

3.104.9 **SAFETY REQUIREMENTS**

- .1 **The Contractor shall provide protection by way of barricades, signs, etc. to safeguard adequately site personnel and the public from injury resulting from demolition activities.**
- .2 **In all cases, the Contractor shall be in accordance with Part 8 – Safety Measures at Construction and Demolition Sites of the National Building Code of Canada.**

.3 The Contractor shall not close off or demolish any existing stairs or exit doors until such time as new exit stairs or temporary arrangements have been provided to replace same.

PART 4PART 5 PAYMENT

4.15.1 MEASUREMENT FOR PAYMENT

.1 Payment at the contract price for the items covered in this Section shall be full compensation for all labour, equipment and materials required.

.2 The removal of water lines, sanitary sewers, storm sewers and culverts where specified or directed by the Owner will be measured along the surface in meters. There will be no deduction in length for the spaces occupied for intermediate maintenance holes, catch basins, ditch inlets or valve chambers.

.3 ~~The excavated material will be paid separately under Section 02223 as appropriate to the existing depth and minimal trench width. The excavated volume is to be deducted from the installed trench volume where new pipe is to be installed in the same location.~~

.4 Removal of concrete base to thickness indicated in the contract documents, will be measured in square metres in place. No deductions will be made from computed areas for the spaces occupied by maintenance hole and catch basin castings.

.5 ~~The removal of asphalt pavement will be measured in accordance with Section 02574.~~

.6 The removal of concrete sidewalks will be measured in square metres in place. Measurements shall be made before removal and shall be the superficial area calculated as the product of the width of sidewalk times its length.

.7 Measurement for removal of curb and gutter will be made horizontally in metres along the faces adjacent to the pavement. Payment will be made for the removal of either concrete curb, concrete curb and gutter or asphalt curb and gutter without further separation into types. No deductions will be made from the measured lengths for the spaces occupied by maintenance holes and catch basin castings.

.8 Where maintenance holes, catch basins, valve chambers, and ditch inlets are to be removed in their entirety, payment will be made without separation into types for each unit removed.

.9 Removal of fences and/or guide rails where indicated on the contract documents and outside of the trench right-of-way will be measured in metres unless otherwise specified. The trench right-of-way equals the theoretical trench width plus one (1) metre on either side of the trench.

.10 The removal of bridges and other items not previously referred to but indicated on the contract documents will be paid by the unit unless otherwise specified.

.11 Removal of mass concrete will be measured in cubic metres in place.

.12 Where payment for the item to be removed is on a volume basis, excavation shall be carried out to such an extent as to permit the measurement by the Owner of the volume of ~~the material concrete or masonry~~ to be removed.

.13 Removal of Asbestos Cement pipe will be by the meter in accordance with the Newfoundland and Labrador Regulation 5/12 Occupational Health and Safety Regulation and the Department of Environment and Climate Control, Pollution Prevention Division, Asbestos Waste Disposal Guidance Document.

~~.14 Broken concrete, masonry or asphalt is acceptable for use for rip-rap construction. In accordance with subsection 4.7.3 of this specification, the placing of the rip-rap will be paid for separately under the appropriate bid item and will not be part of the work to be carried out under this section of the specification~~

~~.15.14 Imported backfill when required, will be paid for separately in accordance with the specification for the material required and used.~~

4.25.2 BASIS OF PAYMENT

.1 All costs associated with the work outlined in this specification shall be deemed to be included in the appropriate unit and lump sum prices quoted as outlined in the Measurement for Payment subsection of this section and as included in the MERX Schedule of Quantities and Prices. When it is necessary to remove a section of pavement, concrete, sidewalk, curb and gutter or similar item in order to remove a culvert, sewer, or other structure lying beneath, payment will be made for each item removed in accordance with the specification for its removal.

.2 ~~The excavated material will be paid separately under Section 02223 – Excavating, Trenching & Backfilling as appropriate to the existing depth and minimal trench width. The excavated volume is to be deducted from~~

the installed trench volume where new pipe is to be installed in the same location.

.3 The removal of asphalt pavement shall be paid for in accordance with Section 02574 – Reshaping & Patching Asphalt Pavement.

.4 Backfill borrow, when required, will be paid for separately in accordance with the specification for the material required and used.

.4.5 When bBroken concrete, masonry or asphalt is acceptable for use for rip-rap construction .in accordance with 4.6 Salvage subsection 4.7.3 of this specification, the placing of the rip-rap will be paid for separately under the appropriate bid item and will not be part of the work to be carried out under this section of the specification.