SPECIFICATIONS FOR
DEMOLITION AND REMOVAL OF EXISTING STRUCTURES

1.0 DESCRIPTION

The Work shall consist of:

.1 Demolition, removal and disposal of existing concrete or steel structures, including but not limited to abutments, piers, girders, deck, curbs (in whole or in part);

.2 Design, supply, fabrication, installation, maintenance and removal of demolition catch platforms;

.3 Backfilling of cavities created; and

.4 Site restoration.

Cofferdams and shoring (if required) shall be completed in accordance with the Specifications for Temporary Works.

2.0 REFERENCES AND RELATED SPECIFICATIONS

All reference standards and related specifications shall be current issue or the latest revision at the date of tender advertisement.

2.1 References

2.2 Related Specifications

- Specifications for Supplying and Placing Backfill
- Specifications for Temporary Works

3.0 SUBMITTALS

The Contractor shall submit the following to the Engineer, in accordance with the Special Provisions:

.1 A detailed plan and schedule clearly illustrating the method and sequence by which the Contractor proposes to demolish and remove the existing concrete or steel structures (in whole or in part), including a description of the measures that will be implemented to meet the environmental requirements. The demolition procedure shall include detailed design notes and Shop Drawings that are sealed, signed and dated by a Professional Engineer licensed to practice in the Province of Manitoba necessary to describe the following:

(a) Access roads, Site Work Roads, work bridges and working platforms in accordance with the Specifications for Temporary Works.

(b) Type and capacity of equipment.

(c) Sequence of operation, including position of equipment.

(d) Proposed method of traffic accommodation and protection of the travelling public, when required.

(e) Design of demolition catch platforms including materials, installation and removal requirements.

(f) Specific requirements for dismantling, demolition and disposal of precast concrete and structural steel components.

(g) Description of the measures that will be implemented to meet the requirements of Environmental Management Procedures, including all monitoring and reporting requirements.

(h) Details and schedule of site restoration.

(i) Measures to be taken to protect adjacent structures, adjacent grades and portions of existing structure to remain.

.2 Upon completion of the Work, a letter bearing the seal of the Registered Professional Engineer certifying that he has carried out a personal inspection of the Work and the method of demolition and removal, including any temporary works and the measures to meet the environmental requirements, have been completed in accordance with his sealed plans and procedures.

.3 A description of the quantity and location for the demolition waste that will be recycled and reused.

4.0 MATERIALS

5.0 CONSTRUCTION METHODS

5.1 Closing To Traffic

The Contractor shall not close any portion of the existing rail line or roadways to traffic or begin the demolition operations without prior written approval from the Engineer. The approval will not be given until all required traffic control devices have been erected and the requirements of the traffic control plan have been met to the satisfaction of the Engineer.

5.2 Demolition

.1 General

The Contractor shall be fully responsible for ensuring safety in areas underlying and adjacent to the construction site. The Contractor will be responsible for any loss or damage caused as a result of his actions. The Contractor shall prevent movement, settlement or damage to adjacent structures, grades or portions of existing structures to remain. If the safety of the structure being removed, or adjacent structures or grades appear to be in danger, the Contractor shall cease operations and notify the Engineer immediately.

All bridge components, in whole or in part, that have been deemed non-salvable by the Engineer, shall not be reused in any other bridge or structure in the future, and shall be disposed of off-site

The Contractor shall obtain and pay for all licenses and permits, and shall comply with all Municipal, Provincial and Federal regulations related to demolition and disposal of these materials.

.2 Complete Demolition

Blasting will not be allowed for demolition without prior written approval from the Engineer.

The existing structures shall be demolished to meet one of the following criteria or as specified in the Special Provisions:

(a) The bottom of footing elevation, if indicated on the Drawings,

(b) The elevations as indicated on the Drawings,

(c) An elevation of 1.0 meter below the existing or proposed ground elevation, or

(d) An elevation of 1.0 meter below the existing stream bed when a substructure unit is situated in water.

.3 Partial Demolition

For partial removal of existing concrete piers, edges shall be saw cut to a depth of 40 mm, or to a lesser depth if necessary, to avoid causing damage to existing reinforcing steel that is to be reused. The Contractor shall then use removal (demolition) equipment or other equipment or methods that will not cause damage to the remaining structural elements.

.4 Demolition Catch Platform

The demolition catch platform shall be designed and constructed as required to catch and retain all products of demolition, from falling onto roadway surfaces, railway right-of-way surfaces or open water during the Contractor's operations.

The demolition catch platform shall be designed and constructed so that the minimum vertical clearances over roadways and railways, as shown on the Drawings, are provided. The platform shall include, but not necessarily be limited to deck edge platforms and other catch platforms as required to collect and contain all products of demolition and all other debris.

5.3 Reinforced Concrete

Reinforced concrete superstructure, substructure and/or culvert components, including piles if applicable, shall be demolished to the limits shown on the Drawings and/or described in the Special Provisions.

5.4 Precast Concrete

Precast concrete components shall be dismantled and removed in a similar manner and sequence as the original installation procedure. Demolition of precast concrete components, particularly prestressed components will not be allowed until the precast component has been transported to an approved demolition site.

Specific requirements for relaxing the force in the prestressing strands, and cutting and removing post tensioning cables (if applicable) shall be included in the demolition procedure.

5.5 Structural Steel

Structural steel components, including bearings and bolts, shall be demolished, removed and disposed of in accordance with the Special Provisions and this Specification. If known, the Department will identify any particular safety or environmental concerns in the Special Provisions.

5.6 Removal and Disposal of Demolished Materials

Any debris that falls off the structures onto the underlying ground, roadway or railway right-of-way shall be immediately cleaned up by the Contractor.

The Contractor shall remove all demolished materials and debris from the site as soon as possible. All material shall be deemed non-salvable unless noted otherwise on the Drawings or Special Provisions. Demolition debris shall become the property of the Contractor and shall be properly disposed of at an approved location, in accordance with the applicable Provincial and Municipal Regulations and Acts. Storage of non-salvable materials and debris will not be allowed on site without the written approval of the Engineer.

The Contractor shall recycle and reuse as much of the demolition debris as is reasonably practical.

5.7 Backfilling of Cavities

The Contractor shall backfill all cavities created by the demolition operations with suitable material approved by the Engineer and in accordance with the Drawings and the Specifications for Supplying and Placing Backfill.

5.8 Site Restoration

The Contractor shall restore the site to the profile and grade as shown on the Drawings and to the approval of the Engineer.

6.0 QUALITY MANAGEMENT

The Contractor shall allow the Engineer unhindered access to the demolition areas and shall assist the Engineer in carrying out inspections, including provision of access platforms.

Upon completion of demolition (in whole or in part), a final inspection will be made by the Engineer. For partial demolition, any damage to the existing structure shall be repaired to the satisfaction of the Engineer before further work is undertaken.

7.0 METHOD OF MEASUREMENT

Demolition and removal of existing structures will be paid for on a lump sum basis, and no measurement will be taken for this work.

8.0 BASIS OF PAYMENT

Demolition and removal of existing structures will be paid for at the Contract Lump Sum Price for “Demolition and Removal of Existing Structures”, measured as specified herein, and will be payment in full for performing all operations herein described and all other items incidental to the Work.