

SECTION 05126**STRUCTURAL STEEL DISMANTLEMENT****PART I GENERAL****1.1 SCOPE**

This Section includes dismantling and containerization of:

- A. Structural steel.
- B. Bar joists.
- C. Floor plate/decking.
- D. Grating.
- E. Stairs, ladders, and handrail.
- F. Metal siding and roofing, including doors, louvers, and windows.
- G. All other miscellaneous steel.
- H. Control of fugitive emissions.

1.2 RELATED SECTIONS

- A. Section 01120 - Debris/Waste Handling Criteria.
- B. Section 01517 - Removing/Fixing Radiological Contamination.
- C. Section 03315 - Concrete/Masonry Removal.
- D. Section 07415 - Transite Removal.

1.3 REFERENCE MATERIALS

See the Invitation for Bid/Request for Proposal (IFB/RFP) Package for the following:

- A. Index of Drawings.
- B. Photographs.
- C. Drawings.
- D. Contractor Safe Work Plan Format Requirements.

1.4 REFERENCES, CODES, AND STANDARDS

All work shall be accomplished in accordance with the following reference, code, and standard requirements:

- A. American National Standards Institute (ANSI):
 - 1. ANSI A10.6-90 Safety Requirements for Demolition Operations.
 - 2. ANSI A10.8-88 Construction and Demolition Operations - Scaffolding - Safety Requirements.

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- 3. ANSI A10.13-89 Construction and Demolition Operations - Steel Erection.
- B. National Fire Protection Association (NFPA):
 - NFPA 241-96 Standard for Safeguarding Construction, Alteration, and Demolition Operations.
- C. United States Occupational Safety and Health Administration:
 - 29 CFR 1926.858 Removal of Steel Construction

1.5 SUBMITTALS

The Contractor shall submit to Fluor Daniel Fernald (FDF) for conformance review a structural steel removal Safe Work Plan in accordance with IFB/RFP, Part 7, Contractor Safe Work Plan Format Requirements, that contains the following information:

- A. Detailed sequence of dismantlement and method of cutting, including equipment to be used.
- B. Methods for contaminant control, including fugitive emissions during cutting.
- C. Detailed plan for protecting lay down and cutting areas from contamination by lead paint chips and for controlling airborne radiological emissions.
- D. Methods and materials used for cutting lead-painted steel.
- E. If structural steel is removed in sections, verify the structural adequacy of the remaining structure. Calculations and drawings to verify the structural integrity of the partially dismantled structure must bear the stamp of a Professional Engineer registered in the State of Ohio.
- F. Plans for personnel tie offs, use of pick boards and walking on or near roof purlins/girders.
- G. If controlled explosive methods are used for structural steel dismantlement, a detailed Safe Work Plan containing the following information shall be prepared:
 - 1. Methods and materials to be used.
 - 2. Means to protect adjacent structures, equipment, material, and underground utilities from damage, including protection from projectiles.
 - 3. Methods and materials to control fugitive emissions.
 - 4. Contingency plan for detonation failure and safe recovery of all undetonated charges.
 - 5. Proof of permit, issued by the Bureau of Alcohol, Tobacco and Firearms, to use explosives.

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6. Evidence of previous work experience using controlled explosives to take down multi-story structures within the last 5 years. This experience may be shown through the sub-tier contract. Provide project locations and contacts for verification.
7. If non-load bearing interior concrete/masonry walls are to be removed, refer to concrete/masonry removal specifications in Section 03315 of this specification package.
8. Identify locations of all cuts and charges and detonation sequence on composite drawings which will be provided by FDF.
9. Provision of adequate protection of charges to prevent shrapnel from damaging the non-electric detonation system or persons near the exclusion boundary.
10. Predications of rubble/debris piles should be made to ensure that safe exclusion zones are established.

PART II PRODUCTS

2.1 MATERIALS

- A. Non-woven Geotextile Fabric:
 1. Trevira Spunbond 1120 by Hoechst Celanese Corp.
 2. Mirafi 160N by Mirafi Inc.
 3. ADS 600 by Advanced Drainage Systems, Inc.
 4. FDF-approved equal products.
- B. Surfactants:
 1. CP-225 CHIL-SORB by Childers.
 2. FDF-approved equal products.

PART III EXECUTION

3.1 PREPARATION

- A. The Contractor shall ensure that adequate lay down space has been cleared and barriers have been established.
- B. Steel and siding shall have contamination removed or fixed prior to exposing steel and siding to the environment in accordance with Section 01517 of this specification package.
- C. If controlled explosive methods are used, the Contractor shall take precautions to control fugitive emissions by saturating the explosion footprint with water 2 to 4 hours prior to the implosion.

3.2 APPLICATION

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- A. All dismantlement activities shall be performed in accordance with the standards listed in Article 1.4 of this Section.
- B. The Contractor shall apply mechanical means of cutting and removing the structural steel to the largest extent possible while also avoiding damage to adjacent structures, components, equipment, and utilities.
- C. The roof deck and roofing material, panels and concrete floor decking shall also be demolished with the structure wherever possible. Roofing material containing asbestos containing material (ACM) shall not be demolished with structural steel.
- D. The Contractor shall dismantle, shear and segregate the structural steel to avoid damage to adjacent structures, component, equipment, and utilities. The Contractor shall minimize bending, twisting, and smashing of the steel during segregation and bulk storage.
- E. Control of fugitive emissions shall be maintained at all times during this removal work to minimize visible dust.
- F. All temporary bracing and rigging frames required shall be in accordance with Section 05125 of this specification package.
- G. Cut all reinforcing (e.g., rebar) and anchors flush with base slab for areas designated on the Civil Demolition Plan for potential debris stockpiling. For all other areas, reinforcements and anchors need only be cut down to within one inch of the base slab. Fill in damaged areas of base slab with patching grout as described in Section 01515 of this specification package.
- H. Lead-based paint chips and debris, released during structural steel dismantlement, shall be collected and managed in accordance with Section 01120 of this specification package and the Waste Management Plan located in Part 6 of the IFB/RFP.

3.3 SPECIAL INSTRUCTIONS

- A. The following items are also included (where applicable) in the sequence of structural steel dismantlement:
 - 1. Doors, Windows, and Frames:
 - a. The Contractor shall remove all windows in one piece and place them in appropriate containers.
 - b. The Contractor shall remove all doors (wood and/or steel) and place them in appropriate containers.
 - 2. Lead Materials:
 - a. The Contractor shall segregate all lead materials (i.e., flashing, vent stacks, etc.) and place them in appropriate containers in accordance with Section 01120 of this specification package and the Waste Management Plan located in Part 6 of the IFB/RFP.

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- b. Prior to torch cutting on a surface coated with a lead-based paint, an eight inch strip of paint shall be removed at the area of the cut (i.e., 4 inches on each side).
 - c. The Contractor shall (whenever possible) dismantle lead flashing in a manner that will facilitate recycling. This will include minimizing inaccessible surfaces and maximizing straight lengths. This will also include avoiding the use of fixatives on the lead flashing that would require an abrasive method of removal.
- B. All material shall be cut to meet sizing criteria and be managed in accordance with the Waste Management Plan located in Part 6 of the IFB/RFP.

3.4 QUALITY ASSURANCE

The Contractor shall inspect debris generation, stockpiling, and containerization to ensure that all materials have been cut to meet size criteria and are being managed in accordance with the Waste Management Plan located in Part 6 of the IFB/RFP.

END OF SECTION