

**SECTION 01515****MOBILIZATION, DEMOBILIZATION AND  
GENERAL SITE REQUIREMENTS****PART I GENERAL****1.1 SUMMARY**

A. This section consists of the work related to Contractor mobilization and demobilization. The principal items included in this section are:

1. Site access.
2. Patching building slab.
3. Construction utilities.
4. Signs and barriers.
5. Potential use of existing overhead bridge cranes.
6. Gravel pads for access and queuing areas.
7. Protecting adjacent facilities and components.
8. Stormwater control.
9. Debris chutes.
10. Remediation equipment.
11. Ventilation and containment.

B. Supplied by Owner:

1. FDF shall supply signs, barriers, fencing, and tape indicating radiological control zones for Contractor installation.
2. FDF will provide electrical power and water to the locations indicated on reference site drawing listed in Part 7 of the IFB/RFP.

C. Supplied by Contractor:

The Contractor shall supply construction zone fencing. Construction zone fencing shall meet the material specifications stated in Article 2.1.C of this Section.

**1.2 RELATED SECTIONS**

- A. Section 01120 - Debris/Waste Handling Criteria.
- B. Section 01519 - Decontamination of Contractor Provided Tools, Equipment and Materials.
- C. Section 03315 - Concrete/Masonry Removal.
- D. Section 05126 - Structural Steel Dismantlement.
- E. Section 07415 - Transite Removal.
- F. Section 15065 - Equipment/System Dismantlement.
- G. Section 15067 - Ventilation and Containment.

**1.3 REFERENCE MATERIALS**

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

- A. Index of Drawings.
- B. Photographs.
- C. Drawings.

**1.4 REFERENCES, CODES AND STANDARDS**

The entire work under this section shall be in compliance with the provisions of the following:

- A. American Society of Testing and Materials (ASTM):
  - 1. ASTM A36 Standard Specification for Carbon Structural Steel.
  - 2. ASTM C109-93 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
  - 3. ASTM C136-93 Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates (AASHTO T27).
  - 4. ASTM D698-91 Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbs/ft.).
  - 5. ASTM C1042-91 Standard Test Method for Bond Strength of Latex Systems Used with Concrete by Slant Shear.
- B. National Fire Protection Association (NFPA):
  - 1. NFPA 70 National Electrical Code, 1996 Edition.
  - 2. NFPA 101A-98 Code for Life from Fire in Buildings and Structures.
- C. American National Standards Institute (ANSI):
  - 1. ANSI C2-93 National Electrical Safety Code.
  - 2. ANSI C135.1-79 Galvanized Steel Bolts and Nuts for Overhead Line Construction.
  - 3. ANSI 05.1-92 Wood Poles Specifications and Dimensions.
- D. American Wood-Preservers Association (AWPA): AWPA C4-95 Poles, Pressure Treatment.
- E. National Electrical Manufacturers Association (NEMA):
  - 1. NEMA LA 1-92 Surge Arresters.
  - 2. NEMA WC 7088 Cross-Linked-Thermosetting Polyethylene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
- F. Underwriters Laboratories (UL):

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1. UL 96-94 UL Standard for Safety Lightning Protection Components.
  2. UL Electrical Directories, 1995 Construction Materials
- G. United States Department of Agriculture, Soil Conservation Service: Water Management and Sediment Control in Urbanizing Areas.
- H. Code of Federal Regulations (CFR):
1. 29 CFR 1926 Occupational Safety and Health Administration, Dept. of Labor (as applicable).
  2. 29 CFR 1910 Occupational Safety and Health Administration, Dept. of Labor (as applicable).
- I. American Water Works Association (AWWA): AWWA C506-78 C Backflow Prevention Devices-Reduced Pressure Principle and Double Check Valve Types
- J. Ohio State Plumbing Code: 4104:26:105 Backflow

**1.5 SUBMITTALS**

The Contractor shall submit a Mobilization Safe Work Plan for approval by FDF that shall include the following:

- A. Drawings and Data:
1. Detail and layout drawings showing locations of any barriers and/or fencing the Contractor will use for construction zones, radiological control boundaries, container staging areas, debris stockpiling areas, and barriers to be used for protection of adjacent structures.
  2. Detail and layout drawings showing temporary structures, access and roadways required during mobilization of major equipment components (e.g., cranes, field offices, tool and equipment storage, chutes within the stated limits of the construction zone). This shall include personnel and vehicle traffic flow patterns into and within the construction zone.
  3. Drawings showing layout, details and applicable equipment, or plans the Contractor will employ to control fugitive emissions, storm water runoff, erosion, and migration of liquids.
  4. Detail and layout drawings showing lay down areas, building vestibule sizes and locations, cutting areas and, as required by Specification Section 01120, container staging areas, material inspection area, and debris stockpiling area(s).
  5. Shop drawings for all debris chutes to be used.
    - a. Provide manufacturer's data or calculations to verify that the chute, its support system and the existing structure (if the debris chute is attached) can withstand all dynamic impact loads they will be subjected to during dismantlement operations.

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- b. Debris chute drawings and calculations submitted must bear the stamp of a Professional Engineer registered in the State of Ohio.
- B. Temporary utilities (such as water, steam, electric power) from the point source location identified on the reference site drawings in Part 7 of the IFB/RFP to end use locations.
- C. Portable heating systems.
- D. Verification that the patching grout compressive and bond strengths are in accordance with ASTM C109 and ASTM C1042, respectively.
- E. Results of the Engineering Survey per 29 CFR 1926.850 (If any building or if part of a building to be dismantled is identified in the Contractor's engineering survey as being structurally deficient, the Contractor shall include in the Safe Work Plan proposed methods to shore the structure so that safety of the workers is maintained).
- F. Written statement that Contractor accepts the condition of utilities isolation.

**1.6 SITE CONDITIONS**

Utilities: all electric, gas, water, steam, sewer, and/or other service lines to the building have been disconnected and/or capped.

**PART II PRODUCTS****2.1 MATERIALS**

- A. Patching Grout: Non-shrink type, premixed compound consisting of non-metallic aggregate; cement; water reducing and plasticizing agent; capable of developing minimum compressive strength of 5,000 psi in 28 days; capable of developing a bond strength of 1,200 psi in 28 days; conforming to ASTM C 109 and ASTM C827.
  - 1. Acceptable products and suppliers:
    - a. Masterflow 713, by Masters Builders.
    - b. SikaGrout 212, by Sika Corp.
    - c. Sealtight 588, by W. R. Meadows.
    - d. Approved equal.
  - 2. The "approved equal" products shall be approved by FDF prior to use on the FEMP.
- B. Construction Zone fencing shall meet the requirements for permanent fencing in Article 2.1.C. Gates shall be plastic yellow chain fixed to stanchions. Stanchions shall be located on grade.
- C. Permanent Fencing: Permanent fencing shall be a distance of 10 feet outside of the areas to be protected, and shall consist of 14 gauge 2"x4" galvanized welded wire mesh 48" high with 7 foot painted steel "T" posts embedded to a depth of 2 feet and placed at 10 foot intervals.

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- D. If filling of slab openings is required per Article 3.2.B of this Specification Section, clean granular fill is used to fill large openings in the base slab, including pits, large sumps, etc. This material will be supplied by the Contractor. Use of fine aggregate shall be natural river sand, bank sand or sand manufactured from stone or air-cooled blast furnace slag; washed; free of silt, clay, loam, friable or soluble materials, and organic matter; within the following limits:

Sieve Size	Percent Passing
No. 4	100
No. 50	10 - 40
No. 200	0 - 5

- E. Gravel Pads for Access and Container Staging Areas

The aggregate shall be 6 - 8 inch (i.e., aggregate size) crushed limestone or gravel and compacted to form a 12 inch base.

- F. Wood Utility Poles:

- ANSI 05.1; treated southern pine poles.
- Select poles for straightness, minimum sweeps and short crooks. FDF shall be notified of any sweeps or crooks prior to installation for determination of acceptance.
- Preservative: ANSI 05.1 and AWPA C4, Pentachlorophenol.
- Apply preservative to AWPA C4 with minimum net retention of 12 lbs/ft<sup>3</sup> (285 kg/m<sup>3</sup>). Obtain complete sapwood penetration.

- G. Pole Hardware:

- Miscellaneous Pole Hardware: Hot-dipped galvanized after fabrication.
- Bolts and Nuts: ANSI C135.1.
- Butt Plate: Copper.
- Guy Strand: High strength, seven strand steel cable galvanized to ASTM A475, Class A or B.
- Guy Termination: Preformed dead-end grip clamp type.
- Guy Guards: 8 foot (2 m) long plastic, colored yellow.
- Ground Wire: Soft drawn copper conductors, 6 AWG minimum size.
- Air Terminal: UL 96; 18 inch copper air terminal.
- Guy Adapter: Twin or Triple Eye.

- H. Line Conductors:

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Secondary Conductors: Aluminum or copper, triplex (three) cable with 600 volt cross-linked polyethylene insulation for phase conductors. Use bare messenger for grounding conductor.

- I. Arresters:
  - 1. Surge Arresters: NEMA LA 1; valve type, arranged for pole mounting, and rated 3 kv.
  - 2. Mechanical Connectors: Bronze.
  - 3. Wire: Stranded copper.
  - 4. Grounding Conductor: Size to meet NFPA 70 requirements.
- J. Pole Anchors: Helical screw anchor type sized for load; galvanized steel; ASTM A36/36M.
- K. Backflow Prevention for Temporary Water Conditions (Reduced Pressure Type):
  - 1. The backflow preventor shall meet Ohio State Plumbing Code 4101:26:105 Backflow and the American Water Works Association (AWWA) Standard (AWWA C506-78) for Backflow Prevention Devices.
  - 2. Acceptable products and suppliers:
    - a. WATTS 909 Backflow Preventor (FDF recommended product).
    - b. Approved equal.
- L. Portable Heating Systems: All portable heaters shall be Underwriters Laboratories (UL) listed or American Gas Association (AGA) certified for their intended use, and are not modified for other applications.

**PART III EXECUTION****3.1 EXAMINATION**

The Contractor shall perform an Engineering Survey in accordance with the requirements of OSHA 29 CFR 1926.850, approved by FDF prior to the Contractor proceeding with any work activities beyond mobilization.

**3.2 PREPARATION**

- A. Site Access:
  - 1. Vehicle, equipment and pedestrian access/egress shall be directed through the designated radiological control points.
  - 2. Provide for emergency vehicles to enter the construction zone at all times.

**SECTION 01515****B. Slab Openings:**

1. Except for areas noted on the Civil Demolition Plan drawing which require permanent fencing to prevent access to particular subsurface voids (e.g., basements, pits, trenches), the Contractor shall fill large openings (e.g., pits, sumps, etc.) with granular fill material to within 2 inches of grade. Alternatively, the Contractor may propose to use engineered covers that are capable of supporting anticipated loads during D&D. Alternatives shall be approved by FDF.
2. Portions of the building slab, which are not identified in the Civil Demolition Plan drawing as areas to be protected with permanent fencing are potential locations for interim storage stockpiling of contaminated debris or for staging of contaminated equipment. In those areas, the slab openings (conduit, piping, drain openings, etc.) shall be filled and covered with patching grout. Additional requirements for potential stockpiling areas include the following:
  - a. Drain water and remove loose debris from large openings in the base slab including pits, sumps, trenches, etc., prior to filling.
  - b. All grease, oil, dirt and other deleterious materials shall be completely removed from slab openings and handled in accordance with Section 01120 of this specification package.
  - c. Follow the manufacturer's recommendations for the application of patching grout.
  - d. Fill in damaged areas of base slab and small openings including drains, chases, small sumps, etc., with a patching grout to create a surface level with surrounding slab. Maximum allowable depression not requiring repair is 1 inch in depth.
  - e. Concrete reinforcements, such as rebar, shall be cut flush with the slab.

**C. Construction Utilities:**

1. Prior to performing any D&D work, the Contractor shall conduct a physical survey to verify that all utilities are capped and/or controlled to the Contractor's satisfaction.
2. Capacities for water and power provisions are listed in Part 6 of the IFB/RFP. The Contractor shall determine if the capacities that can be provided by FDF are adequate for their needs; if not, the Contractor shall supply any additional capacities required.
3. All electrical appurtenances required for temporary power shall be in accordance with the National Electric Code.
4. If needed, temporary heating or cooling shall be provided by the Contractor. Ventilation for fuel-fired heaters and adequate clearance to combustible materials, surfaces, and furnishings shall be provided according to manufacturer's recommendations. FDF shall approve use of LPG gas-fired heaters. All portable continuous running of gas fired heating systems require 24 hour coverage by the Contractor.

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5. The Contractor shall extend the water from the point source location to support operations or provide portable facilities as may be required. Consistent with the Ohio State Plumbing Code, as referenced in Article 1.4, the individual performing the installation, maintenance, and inspection of the backflow preventor shall be a licensed plumber and certified in the State of Ohio as a Backflow Preventor Tester. The individual who provides only the hook-up of a backflow preventor need not be a certified and licensed plumber provided that the hook-up is inspected by a certified and licensed plumber prior to system operation.
    - a. The Contractor shall supply, install, and maintain all backflow prevention devices (in accordance with Article 2.1 of this specification section), fittings, and valves for point source connections.
      1. The contractor shall provide FDF with the backflow prevention device at least two weeks prior to installation for inspection.
      2. FDF will test and approve the backflow preventor for contractor installation.
    - b. At the time of installation and at least every 12 months thereafter, FDF will inspect the assemblies. The Contractor shall coordinate water hook-up with FDF. FDF will activate hydrants.
    - c. At project completion, the Contractor shall turn all backflow prevention devices, fittings, and valves over to FDF in good working order at no additional costs.
    - d. Backflow devices shall have freeze protection and be accessible for inspection.
- D. Signs and Barriers:
1. The Contractor shall protect manholes, catch basins, valve pits, underground utilities, post indicator valves, power poles and drains, adjacent structures, groundwater monitoring wells, existing exterior benchmarks, and survey monuments from damage. If displaced or lost, the Contractor shall reinstall at no additional cost to FDF.
  2. The Contractor shall remove all existing chain link fencing and install construction zone fencing outlining construction boundary. Construction safety signs shall be posted at 50 feet intervals around the defined construction area. Fencing must be supported by posts driven into the ground. The Contractor shall regularly inspect all fences and barriers for integrity and shall perform maintenance to restore integrity in a prompt manner throughout the D&D project.
  3. The Contractor shall install radiological control fencing as follows:
    - a. Yellow snow fence shall be installed around radiological areas in outdoor areas to designate the following boundaries:
 

Contamination Area/Controlled Area;  
High Contamination Area; and  
Adjacent Contamination Areas controlled to different isotopes.

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- b. When yellow fence requirements coincide with an existing barrier such as a permanent fence or a building wall, the existing physical barrier may serve as the boundary.
  - 4. Fencing for short-term work, i.e., work within the project construction zone boundary, may be supported with portable stanchions placed at no more than six feet apart. Entry points shall be established such that they may be easily opened and can be held closed. These points shall be large enough to support traffic and/or movement of waste containers. For situations where personnel access is the only need, the Contractor may utilize building doors or overlapping yellow fence that can be tied back and supported by the remaining fence while open (i.e., will not lie on the ground).
  - 5. Permanent Fencing: Upon completion of D&D activities, the Contractor shall install permanent fencing around specific areas as identified on the Civil Demolition Plan drawing. Article 2.1.C of this Section defines the material and placement specifications. An access gate, using the same fence material, shall be installed at one location along the perimeter fencing of the area to allow subsequent access by FDF. The gate shall have a latch that can be locked.
- E. Potential Use of Overhead Bridge Cranes and Elevators:
- Use of permanent facilities shall be in accordance with the requirements specified in the provisions for Temporary Facilities and Utilities located in Part 6 of the IFB/RFP.
- F. Gravel Pads for Access and Queuing Areas:
- Grading of site shall prevent ponding of water. Use a minimum slope of 1 percent. All grading will direct water toward the site's storm drainage system.
- G. Protecting Adjacent Facilities and Components:
- The Contractor is responsible for avoiding damage to adjacent structures, material and equipment including underground utilities during decontamination and dismantlement activities.
- H. Stormwater Control:
- Storm water control will be required for activities that could disturb soils or otherwise allow for release of contaminants from stockpiled debris. Storm drainage systems within the construction zone shall be maintained free and clear of debris and sediments by use of control devices, such as staked silt fences, and be maintained throughout the project. Hay/straw bales are not acceptable control devices.
- I. Debris Chutes:
- 1. The Contractor shall ensure that catch platforms, chutes and other means of handling debris are properly isolated by gates or barriers designed and constructed to eliminate impact hazards and to control the flow of material to its final destination.
  - 2. Debris chutes shall meet the requirements of 29 CFR 1926.852.
  - 3. Debris chutes shall be fully enclosed, dust-tight and ventilated.

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4. FDF may prohibit the use of a debris chute if the radiological contamination levels could result in the uncontrolled generation of airborne radioactivity.
- J. Remediation Equipment:
1. Identify any special requirements for storing material or equipment.
  2. To minimize the generation of waste products by the Contractor, all equipment requiring periodic oil and filter changes shall have this maintenance performed just prior to arrival on-site.
  3. Additional requirements for mobilization and demobilization of remediation equipment are listed in the IFB/RFP in the Project Radiological Requirements Plan.
- K. Ventilation and Containment:
1. If release cleaning for structures is required, as specified in the Radiological Requirements Plan contained in Part 8 of the IFB/RFP, a vestibule on the entry/exit of the building access prior to the beginning of work shall be installed. The vestibule shall be constructed so as to prevent the escape of airborne contamination. Material used for the construction of vestibules shall be in compliance with Section 15067 of this specification package.
  2. Enclose structure and ensure that all holes, gaps, openings in exterior building structure walls and roofs are sealed with duct tape, fiber-reinforced sheeting, plywood or foam material (including where doors or windows are missing) in accordance with Specification Section 15067. Enclosed structures shall allow for emergency exits.

**3.3 DEMOBILIZATION AND FINAL PROJECT SITE ACCEPTANCE**

- A. Demobilization includes the removal of all contractor tools, equipment, materials, and construction zone perimeter fencing.
- B. Final project site acceptance shall be conducted by FDF in accordance with FDF Site Procedures, and will consist of verification of completion of all work activities relating to the work scope.

**END OF SECTION**