

SECTION 017418

DEMOLITION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for recycling and disposing of demolition waste.
- B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
 - 1. Section 013543 - ENVIRONMENTAL PROTECTION PROCEDURES:
 - a. Environmental-protection measures during construction.
 - 2. Section 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
 - a. Additional requirements for addressing existing materials in renovation and/or remodeling projects; not applicable to new construction.
 - 3. Section 024100 – DEMOLITION for selective building demolition.

1.3 DEFINITIONS

- A. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Develop waste management plan that results in end-of-Project rates for salvage/recycling of 75 percent by weight of total waste generated by the Work.
- B. In the event the General Contractor encounters previously unidentified material that is reasonably believed to be hazardous, asbestos containing, coated with lead-based paint, or oily debris, the General Contractor shall immediately stop work in the affected area and report the condition to the Designer and Owner. At no time shall such material be handled or disposed of by the General Contractor. The General Contractor agrees to cooperate with Owner and any consultants engaged by Owner to perform services with respect to the analysis, detection, removal, containment, treatment, and disposal of such regulated materials.

1.5 SUBMITTALS

- A. Waste Management Plan (WMP): Submit three copies of plan within 30 days of date established for the Notice to Proceed, in a format acceptable to the Project Manager.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit three copies of report. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before submitting a request for Substantial Completion, submit three copies of calculated final rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Facility Permitting Information: For disposal and incinerator facilities provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
- E. Facility Permitting Information: For off-site ABC rubble crushing and/or recycling facilities, provide a statement from the facility that references its specific exemption from the solid waste regulations (per 310 CMR 16.05 (3) (e)) or provide a copy of the facility's current solid waste management facility permit in accordance with 310 CMR 19.000.
- F. Record Keeping for Recycling and Landfill and/or Incinerator Disposal: Documentation to be submitted by the Contractor shall include the following as a condition of each payment:
 - 1. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.

2. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, and/or receipts.
- G. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- H. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- I. Qualification Data: The Refrigerant Recovery Technician shall be certified by EPA-approved certification program and shall provide a copy of current certification to the Designer prior to starting work.
- J. Statement of Refrigerant Recovery: The Refrigerant Recovery Technician responsible for recovering refrigerant shall prepare and sign a document stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations and using equipment that has a current EPA Registration. The document shall include the name and address of technician, date refrigerant was recovered, amount of refrigerant recovered and shipped, and date of receipt of shipment by the reclaimer.
- K. LEED Submittals: The Designer shall prepare a Letter in accordance with LEED guidelines, which shall be signed by the General Contractor. The General Contractor shall provide all information required which includes a tabulation of total waste material, quantities diverted, and means by which it is diverted.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: The Refrigerant Recovery Technician will use recycling/recovery equipment that has a current EPA Registration.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction, including but not limited to, Massachusetts solid waste regulations contained in 310 CMR 16.00 and 310 CMR 19.000.

1.7 WASTE MANAGEMENT PLAN

- A. General: Develop plan consisting of waste identification, and waste reduction, handling, transportation and recycling/disposal procedures. Include separate sections in plan for recycling and disposal of demolition waste. Indicate quantities by weight throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and site-clearing waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Program: List each type of waste and whether it will be recycled or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 3. Donated Materials: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.
 4. Sold Materials: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt. Include names, addresses, and telephone numbers.
- D. Handling and Transportation Procedures: Include methods that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location(s) on Project site where materials separation will be located.
- E. Waste Management Coordinator: Identify General Contractor employee who will be the Waste Management Coordinator for the project. The Waste Management Coordinator will be responsible for implementing, monitoring, and reporting status of waste management work plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement Waste Management Plan as approved by the Designer. Provide containers, storage, signage, transportation, and other items as required to implement WMP for the entire duration of the Contract.
- B. The General Contractor shall conduct a Waste Management Meeting at the Site. The General Contractor shall review methods and procedures related to waste management including, but not limited to, the following:
1. Distribute approved WMP to everyone concerned within three days of approved submittal return.
 2. Clearly identify the Waste Management Coordinator and explain the Coordinator's responsibilities.
 3. Review WMP with each subcontractor when they first begin work on-site. Review plan procedures and locations established for recycling and disposal.
 4. Review and finalize procedures for material separation and verify availability of containers and bins needed to maintain production.
 5. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 6. Provide recycling educational literature for all workers, Subcontractors, and suppliers engaged in on-site activities.
 7. Provide appropriate recycling signage for containers and workspaces.

- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, sold, and disposed.
 - 2. Comply with project requirements for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Sale and Donation: Sale activities are not permitted on Project site. Labor for loading donated items acceptable to local trade practices; union labor if applicable

3.3 RECYCLING DEMOLITION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Receivers and Processors: Available recycling receivers and processors include, but are not limited to, those listed in the Massachusetts Recycling Directory, available from the Massachusetts State Bookstore (617-727-2834) located in the Massachusetts State House, for recycling operations within the Commonwealth of Massachusetts.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical. For waste which cannot be separated at Project site, co-mingle only with waste which is to be separated later at a recycling facility. Contamination of recycling containers with trash or other contaminants will be addressed by the General Contractor and who will be solely responsible for payment of all fines and penalties.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste off User Agency's property and transport to recycling receiver or processor.
- D. On-site crushing of non-coated asphalt pavement, brick, and concrete (ABC) rubble as described in 310 CMR 16.05, is allowed, provided performed in accordance with 310 CMR 16.05. All coated ABC waste must be transported off-site to an asphalt batching plant or to an ABC crushing or recycling operation that is either conditionally exempt from 310 CMR 16.00 or has been sited and permitted in accordance with 310 CMR 16.00 and 310 CMR 19.000, respectively.

3.4 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Deposit all debris in designated container to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for fill or sub-base.
- C. Masonry: Deposit all masonry debris in designated container to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for general fill or satisfactory soil for fill or sub-base. Clean and stack undamaged whole masonry units on wood pallets for reuse.
- D. Wood Materials: Sort and stack salvageable members according to size, type, and length. Separate lumber waste and deposit into appropriate container. Separate engineered wood products, panel products, and treated wood materials into designated containers.
- E. Metals: Separate metals by material type if practical. Stack salvageable structural steel members according to size, type of member, and length.
- F. Asphalt Shingle Roofing: Organic and glass-fiber asphalt shingles and felts shall be disposed of at a facility permitted by Massachusetts Department of Environmental Protection (DEP) to process post-consumer (used) asphalt shingles. Recycle nails, staples acceptable, flashing trim and accessories as metals.
 - 1. Asbestos containing shingles shall be pre-abated and properly disposed of by a Massachusetts licensed asbestos abatement General Contractor, in accordance with all applicable regulations. Asbestos abatement work, including disposal of asbestos containing materials, is not included in the scope of the Work and will be performed by others.
- G. Glass: Deposit glass debris into designated containers to be transported to approved glass-recycling facility.
- H. Plastics: Deposit plastic containers and debris into designated containers to be transported to approved plastic recycling facility.
- I. Gypsum Board: Deposit scraps of gypsum board into designated container protected from weather and transport to appropriate gypsum-recycling facility to be processed into soil amendment.
- J. Acoustical Ceiling Panels and Tile: Deposit pulp able mineral fiber panels into designated container protected from weather and prepare for transport, as directed by manufacturer, to appropriate recycling facility to be processed into new acoustic ceiling panels. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.
- K. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips. Store clean, dry carpet and pad in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- L. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

- M. Plumbing Fixtures: Separate by type and size fixtures suitable for reuse. Deposit all other fixtures into designated containers by material type to be transported to approved recycling facility.
- N. Piping: Separate piping materials by material composition. Deposit in designated containers. Separate supports, hangers, valves, sprinklers, and other components by material type and deposit in designated containers for transport to approved recycling facility.
- O. Lighting Fixtures: Separate lamps by type and protect from breakage.
- P. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
- Q. Conduit: Deposit conduit and fittings into designated container.

3.5 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. For solid waste disposal facilities located in the Commonwealth of Massachusetts, dispose of materials only in facilities which currently comply with applicable state regulations, including requirements of 310 CMR 16.00 {Site Assignment for Solid Waste Facilities} and 310 CMR 19.000 {Solid Waste Management}, and local bylaws.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off the Owner's property and legally dispose of them.

END OF SECTION