

## SECTION 01 74 19

## CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous demolition waste.
  - 2. Recycling nonhazardous demolition and construction waste.
  - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Sections include the following:
  - 1. Division 01 Section "Temporary Facilities and Controls" for environmental-protection measures during construction, and location of waste containers at Project site.
  - 2. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
  - 3. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.

## 1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction 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 [GOALS] [REQUIREMENTS]

- A. Salvage/Recycle Goals: Owner's goal is to salvage and recycle as much nonhazardous demolition and construction waste as possible including the following materials:

##### 1. Demolition Waste:

- a. Asphaltic concrete paving.
- b. Concrete.
- c. Concrete reinforcing steel.
- d. Brick.
- e. Concrete masonry units.
- f. Wood studs.
- g. Wood joists.
- h. Plywood and oriented strand board.
- i. Wood paneling.
- j. Wood trim.
- k. Structural and miscellaneous steel.
- l. Rough hardware.
- m. Roofing.
- n. Insulation.
- o. Doors and frames.
- p. Door hardware.
- q. Windows.
- r. Glazing.
- s. Metal studs.
- t. Gypsum board.
- u. Acoustical tile and panels.
- v. Carpet.
- w. Carpet pad.
- x. Demountable partitions.
- y. Equipment.
- z. Cabinets.
- aa. Plumbing fixtures.
- bb. Piping.
- cc. Supports and hangers.
- dd. Valves.
- ee. Sprinklers.
- ff. Mechanical equipment.
- gg. Refrigerants.
- hh. Electrical conduit.
- ii. Copper wiring.
- jj. Lighting fixtures.
- kk. Lamps.
- ll. Ballasts.
- mm. Electrical devices.
- nn. Switchgear and panelboards.

- oo. Transformers.
- 2. Construction Waste:
  - a. Site-clearing waste.
  - b. Masonry and CMU.
  - c. Lumber.
  - d. Wood sheet materials.
  - e. Wood trim.
  - f. Metals.
  - g. Roofing.
  - h. Insulation.
  - i. Carpet and pad.
  - j. Gypsum board.
  - k. Piping.
  - l. Electrical conduit.
  - m. Packaging: Regardless of salvage/recycle goal indicated above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
    - 1) Paper.
    - 2) Cardboard.
    - 3) Boxes.
    - 4) Plastic sheet and film.
    - 5) Polystyrene packaging.
    - 6) Wood crates.
    - 7) Plastic pails.

#### 1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit 3 copies of plan within 30 days of date established for commencement of the Work.

#### 1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
  - 1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
  - 2. Review requirements for documenting quantities of each type of waste and its disposition.

3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

## 1.7 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification and waste reduction work plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation and handling and transportation procedures.
  1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
  2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
  3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
  4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 PLAN IMPLEMENTATION

- A. General: Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  1. Comply with Division 01 Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work

plan. Coordinator shall be present at Project site full time for duration of Project. Superintendent may be the waste management coordinator.

- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - 1. Distribute waste management plan to everyone concerned within three days of submittal return.
  - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, 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, and sold.
  - 2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

### 3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until installation.
  - 4. Protect items from damage during transport and storage.
  - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted on Project site.
- C. Salvaged Items for Owner's Use:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area on-site designated by Owner.
  - 5. Protect items from damage during transport and storage.
- D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

### 3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.

- B. Recycling Receivers and Processors: List below is provided for information only; available recycling receivers and processors include, but are not limited to, the following:
1. Almighty Waste (207-782-4000) and division of ERRCO, Epping NH (603-679-2626). Recycler of construction and demolition without having to separate materials
  2. Pike Industries in Augusta, ME (207-782-2411) will recycle asphalt paving.
  3. Cousineau Bark & Wood, Wilton, ME will chip clean dimensional lumber (without nails or paint).
  4. Boralex, Inc., Livermore Falls, ME will recycle OSB, plywood and particleboard (no pressure treated materials)
  5. Sandy River Waste, Route 2, Farmington, ME (207-778-3254) will recycle paper, cardboard, cans, bottles, some plastics.
  6. Grimmel Industries, Topsham, ME (207-729-2191) will recycle metals.
  7. OneSteel, 2630 Broadway, Bangor, ME (207-947-3710) will recycle metals.
- C. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
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.
    - a. 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 Owner's property and transport to recycling receiver or processor.

### 3.4 RECYCLING DEMOLITION WASTE

- A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
1. Pulverize concrete to maximum 4-inch size.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
1. Pulverize masonry to maximum 1-1/2-inch size.
  2. Clean and stack undamaged, whole masonry units on wood pallets.

- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- E. Metals: Separate metals by type.
  - 1. Structural Steel: Stack members according to size, type of member, and length.
  - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- F. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.
  - 1. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.
- G. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
  - 1. Store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.
- H. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- I. Plumbing Fixtures: Separate by type and size.
- J. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- K. Lighting Fixtures: Separate lamps by type and protect from breakage.
- L. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.
- M. Conduit: Reduce conduit to straight lengths and store by type and size.

### 3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
  - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
  - 2. Polystyrene Packaging: Separate and bag materials.
  - 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
  - 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
  - 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
  - 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

- a. Comply with requirements in Division 32 Section "Plants." for use of clean sawdust as organic mulch.

### 3.6 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.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01 74 19