

**PART 1 GENERAL****1.1 SUMMARY**

- A. The Owner has established that this Project shall include proactive measures for waste management by all parties to the Contract.
- B. The purpose of this Program is to ensure that during the course of the Project all diligent means are employed to pursue practical and economically feasible waste management and recycling options through active cooperation of the Contractor, subcontractors, material suppliers, and Owner.
- C. The purpose of this Program is to generate the least amount of waste possible and put in place processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- D. Waste disposal in landfills shall be minimized to the greatest extent possible.
- E. The information gathered and quantified under this specification section will be used as documentation in quantifying materials diverted from landfills in support of LEED Materials & Resources Credits 2.1 and 2.2. For this Project, a minimum of 75% (by weight) of total project waste shall be diverted from the landfill.

**1.2 DEFINITIONS**

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Landfill: Any public or private business involved in the practice of trash disposal.

- G. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- H. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.
- I. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- J. Return: To give back reusable items or unused products to vendors for credit.
- K. Reuse: To reuse a construction waste material in some manner on the Project site.
- L. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- M. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- N. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- O. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- P. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- Q. Volatile Organic Compounds (VOCs): Chemical compounds common in and emitted by many building products over time through outgassing: solvents in paints and other coatings; wood preservatives; strippers and household cleaners; adhesives in particleboard, fiberboard, and some plywoods; and foam insulation.
- R. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.
- S. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material being landfilled.

**1.3 SUBMITTALS**

- A. Construction Waste Management Plan:
  - 1. Contractor required to submit for approval Construction Waste Management Plan a minimum of 15 calendar days prior to any waste removal.
  - 2. Revise and resubmit Construction Waste Management Plan as required by Owner. Approval will not relieve Contractor of responsibility for compliance with applicable environmental regulations.
- B. Progress Documentation:
  - 1. Document on form in Appendix A of this Section, or similar form as approved by Owner.
  - 2. With each Application for Payment, submit updated documentation for the Construction Waste Management Plan.
  - 3. With each Application for Payment, submit manifests, weight tickets, receipts, and invoices specifically identifying the Project and waste materials.

**1.4 PROJECT MEETINGS**

- A. Prior to beginning Work, schedule and conduct a conference to review the Construction Waste Management Plan and discuss procedures, schedules and specific requirements for waste materials recycling and disposal. Discuss coordination and interface between the Contractor and other construction activities. Identify and resolve problems with compliance with the requirements. Record minutes of the meeting, identifying all conclusions reached and matters requiring further resolution.
- B. Include discussion of the Construction Waste Management Plan during regular job meetings and job safety meetings.

**1.5 QUALITY ASSURANCE**

- A. Comply with all applicable local, state, and national requirements.
- B. Comply with Disposal Sites, Recyclers, and Waste materials Processors. Use only facilities properly permitted by the State of Texas, and by local authorities where applicable.

**1.6 TARGETED MATERIALS**

- A. Land clearing debris, soils, and vegetation
- B. Metals (including strapping)
- C. Cardboard (and paper packaging)

- D. Wood (including pallets)
- E. Plastics (including pallets and miscellaneous packaging)
- F. Bubble wrap/Stretch Wrap
- G. Glass
- H. Asphalt materials
- I. Concrete waste
- J. Masonry waste
- K. Gypsum Board (sheetrock), unpainted
- L. Ceiling Tile
- M. Carpeting and pad
- N. Vinyl
- O. Paint and paint cans
- P. Insulation
- Q. Beverage Containers
- R. Others as appropriate

### 1.7 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. The Construction Waste Management Plan should include the following (at a minimum):
  - 1. Material List:
    - a. A list of each material proposed to be salvaged, reused, recycled or disposed of during the course of the Project.
    - b. Estimated quantities for each type of material.
    - c. Separation requirements.
    - d. On-site storage method for each type of material.
    - e. Transportation method for each type of material.
    - f. Destination of each type of material.
  - 2. Include a list of the recycling, reuse, and salvage facilities, municipal solid waste landfills and other disposal area(s) to be used. Include
    - a. Name, location, phone number, and contact person
    - b. Copy of permit or license for each facility.

3. Include a list of waste materials not reusable, recyclable, or otherwise conservable that must be disposed of in a landfill or other means acceptable under governing State and local regulations.
  4. Detailed description of material handling procedures including on-site collection/storage locations, separation methods and containers, and protection of recyclable materials.
  5. Identification of instances where compliance with the requirements of this specification is not possible.
  6. Identification of measures to avoid or prevent generation of waste materials.
- B. Contractor shall coordinate with material suppliers.
1. Material suppliers shall submit documentation regarding proactive procedures for minimizing the amount of packaging waste for project related deliveries.
  2. Material suppliers shall submit documentation to Contractor verifying that minimization and/or elimination of packaging will not affect warranty, compromise storage requirements, or affect sequencing of construction.
- C. Contractor shall incorporate into the plan documentation from suppliers or manufacturers regarding waste management and recycling options for those products delivered.

#### 1.8 CONSTRUCTION WASTE MANAGEMENT IMPLEMENTATION

- A. The Contractor shall be responsible for implementing and coordinating the 'Construction Waste Management Plan' with all subcontractors and other parties to the Contract.
- B. The Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Construction Waste Management Plan for the Project.
- C. The Contractor shall distribute copies of the Construction Waste Management Plan to all subcontractors/vendor's prior to being approved to participate on the Project.
- D. The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- E. The Contractor shall be responsible for maintaining recycling containers in orderly fashion and for their relocation when required by construction phasing.
- F. The Contractor shall be responsible for maintaining covered waste containers:

1. Clearly label recycling and waste bins to avoid contamination of materials.
2. Segregation of construction debris for reuse, recycling, and salvage shall comply with all federal, state, and local ordinances.
3. No biodegradable materials shall be deposited in solid waste containers. Provide bins/containers/designated areas for composting of biodegradable materials.
4. Hazardous Waste shall be separated, stored and disposed of in accordance with local and EPA regulations.
5. Chlorine-based construction products (i.e. PVC) shall not be incinerated.

## **PART 2 PRODUCTS**

NOT USED

## **PART 3 EXECUTION**

### **3.1 WASTE MANAGEMENT**

- A. Develop and implement waste management procedures in accordance with the Construction Waste Management Plan.
- B. Site Storage: Remove all indicated recyclable materials from the work location to approved containers daily. Failure to remove waste materials will be considered cause for withholding payment.
- C. Source Separation: Separate, store, protect, and handle at the project site all identified recyclable and salvageable waste products to prevent contamination of materials, maximize recyclables, and maximize salvage opportunities.
- D. Handling:
  1. Transport waste materials from the work location to the containers and carefully deposit in the containers without excess noise and interference with other activities, in a manner to minimize noise and dust. Close container covers immediately after materials are deposited.
  2. Clean materials that are contaminated prior to placing in collection containers. Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances detrimental to the recycling process.
  3. Do not place materials on the ground adjacent to the container.
  4. Arrange for the regular collection, transport from the site, and delivery to approved facilities of waste material.

5. Change out loaded containers for empty containers, as demand requires.
  6. Handle hazardous waste and hazardous materials in accordance with applicable local, state, and national standards.
- E. Composting:
1. Maintain moisture content between 35 percent and 60 percent.
  2. Maintain carbon to nitrogen content at approximately 30 to 1 by weight.
  3. Do not compost meat or dairy products on site.
  4. Avoid composting diseased vegetation.

**END OF SECTION 01505**