SECTION XXXXXX - 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 other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

B. Related Sections:

1. Division 01 Section "Multiple Contract Summary" for coordination of responsibilities for waste management.
2. Division 02 Section "Structure Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements[**, and for disposition of hazardous waste**].
3. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements[**, and for disposition of hazardous waste**].
4. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.
5. Division 04 Section "Stone Masonry" for disposal requirements for excess stone and stone waste.
6. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Demolition and Construction Waste: materials and debris generated during construction, renovation, demolition, or dismantling of all structures and buildings and associated infrastructure. C&D Waste includes, but is not limited to, the following non-hazardous items:
- Building components and structures (wall studs, insulation, doors, windows)
- Materials such as concrete, asphalt, wood, metals, panels, trim, gypsum, wallboard, roofing, and land clearing debris
- Carpet and other flooring material
- Adhesives, sealants, paints and coatings
- Mechanical systems
- Plumbing systems
- Electrical systems

B. Disposal: removal of materials by means other than reuse, recycling, or salvaging (e.g. landfill, incineration, waste-to-energy disposal)

C. Diversion: reuse, recycle, or salvage

1.4 PERFORMANCE REQUIREMENTS

A. General: Unless state or local regulations require a higher percentage, achieve end-of-Project rates for diversion of **50** percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. The contractor can apply for a waiver from GSA if the 50% minimum diversion requirement is not attainable.

1.5 SUBMITTALS

A. Waste Management Plan: Fourteen (14) calendar days prior to any construction activity, the contractor must develop and submit to the GSA COR a C&D Waste Management Plan to ensure that existing C&D waste is diverted. Approval of the contractor's Plan does not relieve the contractor of responsibility for compliance with applicable environmental regulations. This plan must meet at least the following requirements:

1. Establish a target diversion rate for all construction and demolition waste of 70% by weight.
2. Include an estimate in weight (tons) of waste diversion for each category of waste material expected on the project (e.g. metal, plastic, etc.).
3. If any waste materials encountered during the demolition or construction phase are found to contain lead, asbestos, PCBs, fluorescent lamps, or any hazardous substances, they are to be handled and removed in accordance with local, state, and federal laws and requirements concerning hazardous waste as well as any specific hazardous waste requirements stated in different sections. These materials and any other hazardous materials must be excluded from the construction waste stream calculations.
4. List of the diversion facilities and disposal facilities to be used (include name, location, and phone number).
5. List of proposed materials to be diverted identified on a site pre-assessment. In addition, list any materials that cannot be diverted with a justification.
6. Scheduled meetings to address waste management with all subcontractors affected by the Waste Management Plan.
7. Delineate storage and collection methods of disposed materials and diverted materials, handling procedures, and means of keeping diverted materials free of contamination. The contractor must not use the facility's dumpsters or trash receptacles for waste diversion or waste disposal.
8. Describe the methodology that will be used for the proper transportation of diverted materials. If possible, estimate the quantities and timeframes when containers for diverted materials will be emptied.
9. Description of the quality control program to ensure the disposed materials and diverted materials generated from the facility alterations and additions are not leaving the project building through uncontrolled or unmonitored channels.

B. C&D Waste Management Report: The contractor must record and track the type and quantity by weight in pounds of each material diverted or disposed on the Construction and Demolition Waste Management Report. When actual weights are not known, the contractor must use volume-to-weight conversion factors established by a reputable organization. Possible sources include Federal and State agencies such as these:

1. California State Conversion Factors at http://www.calrecycle.ca.gov/LGCentral/Library/DSG/ICandD.htm
2. WasteWise Update "The Measure of Success—Calculating Waste Reduction" at http://www.epa.gov/epawaste/partnerships/wastewise/pubs/wwupda11.pdf
3. EPA's Standard Volume-to-Weight Conversion factors at http://www.epa.gov/epawaste/conserve/tools/recmeas/docs/guide_b.pdf
4. Massachusetts State Conversion Factors at http://www.mass.gov/dep/recycle/approvals/dswmpu03.htm
5. GSA National Capital Region's Waste Management Desk Guide at http://ncr.gsa.gov/recycle/

The contractor must keep the Construction and Demolition Waste Management Report current throughout the project and send the GSA COR an updated copy of the report once a month until the final version is submitted. The contractor must submit a final version of the Construction and Demolition Waste Management Report to the GSA COR with contract closeout documentation. See the attached Construction and Demolition Waste Management Report for further details about the information required.

If the contractor has more than one construction project occurring at the facility, the contractor can submit a C&D Waste Management Report that combines the results from this project and any other concurrent project at the facility. However, if the contractor is submitting a C&D Waste Management Report that combines 2 or more concurrent projects at the facility, the contractor must indicate the names of all projects being captured on the Report. It is important that the contractor not double count any waste being diverted or disposed on all C&D Waste Management Reports being submitted for the facility.

C. Waste Hauler Receipts: The contractor must keep all waste hauler receipts for materials disposed or diverted on the contract available for GSA review from contract start date until one year after the contract ends. If the contractor has more than one construction project occurring at the facility, the contractor can submit waste hauler receipts that combines the waste from this project and any other concurrent project at the facility.

D. Certificate of Reclamation/Recycling: The contractor must provide a certificate of reclamation/recycling with the final Construction and Demolition Waste Management Report. If the contractor has more than one construction project occurring at the facility, the contractor can submit a certificate of reclamation/recycling that combines the recycling from this project and any other concurrent project at the facility. This certification must contain the following information:

1. Processing facility name, location, and POC
2. Dates covered by certificate
3. Type of material processed
4. Tonnage of material processed
5. Signature and date by processing facility representative

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that

recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. 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.

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 waste diversion 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 CONSTRUCTION AND DEMOLITION WASTE, GENERAL

A. Salvaged Items for Reuse: Salvage items for reuse and handle as follows:

1. Store items in a secure area until installation.
2. Protect items from damage during transport and storage.

B. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

3.3 RECYCLING CONSTRUCTION AND DEMOLITION WASTE, GENERAL

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

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall **accrue to Contractor.**

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other hazardous substances.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Store recyclable waste as directed in approved C&D waste management plan.

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 CONSTRUCTION AND DEMOLITION WASTE, MATERIALS

A. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

B. Concrete, Asphalt, Masonry: Source separate as approved in C&D waste management plan. Prepare for removal from Owner's site as approved in C&D waste management plan.

C. 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, if required by recycling facility.

D. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories, if required by recycling facility.

E. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

F. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

G. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

H. Carpet[**and Pad**]: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

1. Store clean, dry carpet[**and pad**] in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

I. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

J. Conduit: Reduce conduit to straight lengths and store by type and size.

K. Refrigerants: Whenever possible, coordinate with the Defense Logistics Agency to reclaim Class I or Class II refrigerants. Questions can be directed to the Ozone Depleting Substances (ODS) Reserve at: (804) 279-5203. All other refrigerants should be recovered according to local, state, and federal requirements.

L. 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: Stack and store according to size. Recycle or reuse according to approved construction waste management plan.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

M. Site-Clearing Wastes: Chip brush, branches, and trees [**on-site**] [**at landfill facility**].

1. Comply with requirements in Division 32 Section "Plants" for use of chipped organic waste as organic mulch.

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 properly dispose of them according to local, state, and federal regulations.

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.

3.6 C&D WASTE MANAGEMENT SUBMITTALS

A. General: All submittals are listed in Section 1.5 above and should be completed according to the time requirements specified in that section..

3.7 ATTACHMENTS

A. C&D Waste Management Report.

END OF SECTION XXXXXX