
USACE / NAVFAC / AFCEA / NASA UFGS-01 74 19 (July 2006)

Preparing Activity: USACE Superseding
UFGS-02 42 00 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 18 July 2006

Revised throughout - latest change not indicated by CHG tags

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SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT 07/06

NOTE: This guide specification covers the requirements for the management of non-hazardous construction and demolition waste materials.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

Military installations are required to direct at least 40% of their non-hazardous solid wastes (including waste from construction and demolition operations) from the waste stream by the end of FY05.

This guide specification should be used, when appropriate, to reduce the amount of construction and demolition waste requiring landfill disposal or incineration and to promote more efficient use of construction materials during construction.

The requirements of this specification must be coordinated with the facility user to assure compatibility with the users waste management programs and to gain access to recycling centers and storage areas. Also, this specification must be coordinated with Section 01355A ENVIRONMENTAL PROTECTION, Section 02220 DEMOLITION, Section 01575N TEMPORARY ENVIRONMENTAL CONTROLS, Section 02220 DEMOLITION and other sections of the project

specification requiring disposal of construction and demolition waste.

Disposal of hazardous or toxic materials and wastes is specified in Section 02120 TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS and Section 01575N TEMPORARY ENVIRONMENTAL CONTROLS.

Every project shall use a properly edited version of this guide specification.

PART 1 GENERAL

1.1 REFERENCES

NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM E 1609

(1994; R 2001) Development and Implementation of a Pollution Prevention Program

U.S. GREEN BUILDING COUNCIL (USGBC)

LEED

(2002; R 2005) Leadership in Energy and Environmental Design(tm) Green Building Rating System for New Construction (LEED-NC)

1.2 GOVERNMENT POLICY

NOTE: Diverting construction waste from the landfill contributes to the following LEED credit: MR2. Diverting 95 to 100 percent of waste may contribute to the following LEED credit: ID1. Army projects shall include bracketed sentence if pursuing this credit.

Government policy is to apply sound environmental principles in the design, construction and use of facilities. As part of the implementation of that policy the Contractor shall: (1) practice efficient waste management when

sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse. A minimum of [50] [75] [_____] percent by weight of total project solid waste shall be diverted from the landfill.

1.3 MANAGEMENT

Develop and implement a waste management program in accordance with **ASTM E 1609** and as specified. The Contractor shall take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort. **The Environmental Manager, as specified in Section 01 35 40.00 20 Environmental Management, shall be responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the project.** Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste consideration shall be given to the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. The Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling shall accrue to the Contractor. Firms and facilities used for recycling, reuse, and disposal shall be appropriately permitted for the intended use to the extent required by federal, state, and local regulations. The Contractor shall provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

1.4 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the

District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Waste Management Plan[; G][; G, [____]]; (LEED)

SD-11 Closeout Submittals

Records; (LEED)

1.5 MEETINGS

The Contractor shall conduct Construction Waste Management meetings. After award of the Contract and prior to commencement of work, the Contractor shall schedule and conduct a meeting with the Contracting Officer to discuss the proposed Waste Management Plan and to develop a mutual understanding relative to the details of waste management. The requirements for this meeting may be fulfilled during the coordination and mutual understanding meeting outlined in [Section 01 45 00.00 20 CONSTRUCTION QUALITY CONTROL] [Section 01 45 04.00 10 CONTRACTOR QUALITY CONTROL]. At a minimum, environmental and waste management goals and issues shall be discussed at the following additional meetings:

- a. Pre-bid meeting.
- b. [Preconstruction] [Pre-demolition] meeting.
- c. Regular [site] [QC] meetings.
- d. Work safety meetings.

1.6 WASTE MANAGEMENT PLAN

NOTE: The requirements for the Contractor's waste management plan must be coordinated with the waste management plan for the installation. Revise this paragraph as necessary to meet the installation's requirements. Designer shall verify that items are able to be disposed of as specified in the technical sections. Contractor may include specified items in item (i) below if explanation or justification exists, to be approved by the Contracting Officer.

A waste management plan shall be submitted within [15][_____] days after [contract award][notice to proceed] and not less than 10 days before the [preconstruction][pre-demolition] meeting. The plan shall demonstrate how the project waste diversion goal shall be met and shall include the following:

- a. Name of individuals on the Contractor's staff responsible for waste prevention and management.
- b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.
- c. Description of the regular meetings to be held to address waste management.
- d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.
- e. Characterization, including estimated types and quantities, of the waste to be generated.
- f. Name of landfill and/or incinerator to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.
- g. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks and Habitat for Humanity. Include the name, location, and phone number for each reuse facility to be used, and provide a copy of the permit or license for each facility.
- h. List of specific waste materials that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Estimated percentage of waste diverted by this Plan. Recycling facilities that will be used shall be identified by name, location, and phone number, including a copy of the permit or license for each facility.
- i. Identification of materials that cannot be recycled/reused with an explanation or justification, to be approved by the Contracting Officer.
- j. Description of the means by which any waste materials identified in item (h) above will be protected from contamination.
- k. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).
- l. Anticipated net cost savings determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance.

Revise and resubmit Plan as required by the Contracting Officer. Approval of Contractor's Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations or meeting project cumulative waste diversion requirement. The Contractor shall distribute copies of the Waste Management Plan to each subcontractor, the Quality Control Manager, and the Contracting Officer.

1.7 RECORDS

NOTE: Army projects shall use LEED Letter Template
if pursuing this credit. Include bracketed sentence
for Army projects.

NOTE: Include second paragraph regarding timber
harvest and demolition by others if applicable and
if pursuing LEED credit MR2.

Records shall be maintained to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. [Records shall be kept in accordance with the LEED Reference Guide and using the LEED Letter Template.] Quantities may be measured by weight or by volume, but must be consistent throughout. List each type of waste separately noting the disposal or diversion date. Identify the landfill, recycling center, waste processor, or other organization used to process or receive the solid waste. Provide explanations for any waste not recycled or reused. With each application for payment, submit updated documentation for solid waste disposal and diversion, and submit manifests, weight tickets, receipts, and invoices specifically identifying the project and waste material. The records shall be made available to the Contracting Officer during construction, and a copy of the records shall be[delivered to the Contracting Officer upon completion of the construction][included in the LEED Documentation Notebook].

[Demolition accomplished by other parties on this project site count toward the project's total waste diversion cumulative score for LEED. Information on the quantity and disposition of these materials will be provided by the Contracting Officer. Include this data in records, annotated to indicate that it was accomplished by another party.]

[1.8 REPORTS

NOTE: This paragraph applies only to Army and Air
Force projects. For Army projects, reports go to
SWARS coordinator. For Air Force projects,
coordinate with Base and identify the appropriate
person to collect this data.

Provide quarterly reports and a final report to [insert name], at [insert fax number, email address or mailing address]. Quarterly and final reports shall include project name, information for waste generated this quarter, and cumulative totals for the project. Each report shall include supporting documentation to include manifests, weight tickets, receipts,

and invoices specifically identifying the project and waste material. Include timber harvest and demolition information, if any.

]1.9 COLLECTION

Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvagability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management and clearly and appropriately identify them. Provide materials for barriers and enclosures around recyclable material storage areas which are nonhazardous and recyclable or reusable. Locate out of the way of construction traffic.

Provide adequate space for pick-up and delivery and convenience to subcontractors. Recycling and waste bin areas are to be kept neat and clean, and recyclable materials shall be handled to prevent contamination of materials from incompatible products and materials. Clean contaminated materials prior to placing in collection containers. Use cleaning materials that are nonhazardous and biodegradable. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with [Section 01 35 40.00 20 ENVIRONMENTAL MANAGEMENT] [Section 01355A ENVIRONMENTAL PROTECTION]. Separate materials by one of the following methods:

1.9.1 Source Separated Method.

Waste products and materials that are recyclable shall be separated from trash and sorted as described below into appropriately marked separate containers and then transported to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the following category types as appropriate to the project waste and to the available recycling and reuse programs in the project area:

- a. Land clearing debris.
- b. Asphalt.
- c. Concrete and masonry.
- d. Metal (e.g. banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, lead, lead brass, bronze).
 - (1) Ferrous.
 - (2) Non-ferrous.
- e. Wood (nails and staples allowed).
- f. Debris.
- g. Glass (colored glass allowed).
- h. Paper.
 - (1) Bond.

(2) Newsprint.

(3) Cardboard and paper packaging materials.

i. Plastic.

(1) Type 1: Polyethylene Terephthalate (PET, PETE).

(2) Type 2: High Density Polyethylene (HDPE).

(3) Type 3: Vinyl (Polyvinyl Chloride or PVC).

(4) Type 4: Low Density Polyethylene (LDPE).

(5) Type 5: Polypropylene (PP).

(6) Type 6: Polystyrene (PS).

(7) Type 7: Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

j. Gypsum.

k. Non-hazardous paint and paint cans.

l. Carpet.

m. Ceiling tiles.

n. Insulation.

o. Lighting (e.g., fluorescent, HID, incandescent).

p. Beverage containers.

q. [_____].

1.9.2 Co-Mingled Method.

Waste products and recyclable materials shall be placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed.

1.9.3 Other Methods.

Other methods proposed by the Contractor may be used when approved by the Contracting Officer.

1.10 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the Contracting Officer and in compliance with waste management procedures. Except as otherwise specified in other sections of the specifications, disposal shall be in accordance with the following:

1.10.1 Reuse.

First consideration shall be given to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. [Coordinate reuse with Contracting Officer.] [Reuse materials as indicated on Drawings.] Sale or donation of waste suitable for reuse shall be considered.

1.10.2 Recycle.

NOTE: Crushing lamps on site creates a hazardous waste stream, which has additional handling and disposal requirements.

Waste materials not suitable for reuse, but having value as being recyclable, shall be made available for recycling. All fluorescent lamps, HID lamps, and mercury-containing thermostats removed from the site shall be recycled. Arrange for timely pickups from the site or deliveries to recycling facilities in order to prevent contamination of recyclable materials.

[1.10.3 Compost

NOTE: If compost pile shall remain on site after construction is complete, and if there is a use for the finished compost, employ composting practices throughout the project.

Consider composting on site if a reasonable amount of compostable material will be available. Compostable materials include plant material, sawdust, and certain food scraps.

]1.10.4 Waste.

NOTE: Disposal by landfill or incineration on the installation should not be provided as a "no Cost" item. If necessary to use such facilities the Contractor should be charged the prevailing commercial rate.

Materials with no practical use or economic benefit shall be disposed at a landfill or incinerator.

1.10.5 Return

Set aside and protect misdelivered and substandard products and materials and return to supplier for credit.

PART 2 TITLE

Not used

PART 3 TITLE

Not used

-- End of Section --