

**PUBLIC WORKS TECHNICAL BULLETIN 200-1-23
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**GUIDANCE FOR THE REDUCTION OF
DEMOLITION WASTE THROUGH REUSE AND
RECYCLING**



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GUIDANCE FOR THE REDUCTION OF
DEMOLITION WASTE THROUGH REUSE AND
RECYCLING

1. Purpose. The purpose of this Public Works Technical Bulletin (PWTB) is to provide guidance for recovering, reusing, and recycling building materials typically disposed of as demolition waste. It will assist Army installations and Major Army Commands (MACOMs) in implementing practices to reduce the amount of demolition debris generated by the removal of surplus buildings.

2. Applicability. This PWTB applies to installation Directorates of Public Works, Public Works Business Centers, Directorates of Engineering, and other U.S. Army facilities' engineering activities involving facility disposal.

3. References.

a. Executive Order (EO) 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition," 14 September 1998

b. Memorandum, Deputy Under Secretary of Defense (Environmental Security), 13 May 1998, subject: New DoD Pollution Prevention Measure of Merit

c. PWTB 420-49-30, "Alternatives to Demolition for Facility Reduction," 10 February 2000.

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d. PWTB 420-49-32, "Selection of Methods for the Reduction, Reuse, and Recycling of Demolition Waste," 16 July 2001.

e. Memorandum, 1 Principal Deputy Secretary of the Army (Installations and Environment), 18 January 2001, subject: Deconstruction and Re-Use of Excess Army Buildings

f. Memorandum, Assistant Chief of Staff for Installation Management (ACSIM), 26 May 2000, subject: Sustainable Design and Development (SDD) Policy

g. Memorandum, ACSIM, 31 August 2001, subject: Management of C&D Waste

h. Guidelines, ACSIM, 16 August 2001, subject: Managing Construction and Demolition Waste

i. Unified Federal Guide Specification (UFGS) 01572, "Construction and Demolition Waste Management"

j. UFGS 02220, "Demolition"

k. Headquarters, Air Force Center for Environmental Excellence (AFCEE), Brooks AFB, TX, "Construction and Demolition Waste Management Guide," March 2000.

4. Discussion.

a. Outlined in this PWTB are procedural guidance and supporting documents for removing surplus buildings, while diverting the debris deposited in installations' landfills or hauled to off-site landfills. Building deconstruction (the disassembly of a building for the purposes of recovering components and materials for reuse), salvage, and recycling methods are addressed. It is important to note that no single strategy for waste diversion is applicable to all buildings, construction types, and locations. Therefore, several methods are described to address a range of project-specific conditions. PWTB 420-49-32, "Selection of Methods for the Reduction, Reuse, and Recycling of Demolition Waste," provides guidance on evaluating specific project conditions and assessing the feasibility of deconstruction, reuse, and recycling methods.

b. Construction and demolition (C&D) debris accounts for up to 80 percent of some installations' solid waste

streams. This situation is most critical where an installation is removing large numbers of World War II-era wood buildings and where new construction programs require the demolition of existing facilities. Even if Facility Reduction and new Military Construction (MILCON) programs are more modest, C&D debris constitutes a significant solid waste burden. Demolition is expensive in and of itself. However, the costs to permit, construct or expand, operate and maintain, close, and monitor a landfill throughout its life are expenses incurred by demolition debris as well. Where an installation's landfill is closed, hauling costs and tipping fees will cost more than onsite landfilling. Alternatives to conventional demolition and landfilling have proven that diverting more than 75 percent of debris from the landfill is achievable.

c. The Principal Deputy Assistant Secretary of the Army (PDASA) has entered into discussions with Habitat for Humanity (HfH) and other Federal agencies (including Housing and Urban Development [HUD] and the U.S. Environmental Protection Agency [EPA]) to develop less expensive and less wasteful avenues to dispose of surplus buildings by moving them off installations, or deconstructing them to salvage building materials for reuse. The PDASA has committed the Army to supporting initiatives whereby the Army and surrounding communities can benefit from the reuse of excess Army buildings.

d. The Army has adopted the concept of Sustainable Design and Development (SDD), as described in the Memorandum, Assistant Chief of Staff for Installation Management (ACSIM), 26 May 2001. The Memorandum, ACSIM, 31 August 2001, provides guidance on the relationship of C&D waste management to SDD, and requires installations to incorporate C&D waste management programs into their Integrated Solid Waste Management Plans.

e. Appendix A to this PWTB describes procedures for incorporating deconstruction, salvage, and recycling practices into building removal projects with the objectives of (1) reducing landfill burdens and (2) making better use of the resources available in surplus buildings. Five general strategies are described. Variations within each are also possible. Appendixes B, C, and D provide sample deconstruction specification provisions, examples of solicitations to bid or auction surplus buildings, and a model Request for Proposal for removing buildings.

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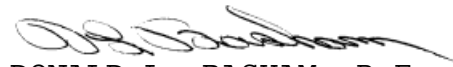
Appendix E provides cost-related information for deconstructing wood-frame buildings.

5. Points of Contact. HQUSACE is the proponent for this document. The POC at HQUSACE is Mr. Malcolm E. McLeod, CEMP-RI, 202-761-0206, or e-mail: Malcolm.E.McLeod@HQ02.usace.army.mil

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APPENDIX A

GUIDANCE FOR THE REDUCTION OF DEMOLITION WASTE THROUGH REUSE AND RECYCLING

General

Diminishing landfill capacity on installations is the primary motivation for the Army's policies to reduce the nonhazardous solid waste stream. The major component of nonhazardous solid waste on many installations is construction and demolition (C&D) debris, so C&D debris is the most problematic for waste management.

The cost to demolish facilities is also of concern. While not great compared to a major construction project, demolition expenditures, including the life-cycle costs of operating and managing the landfill, consume funds that could otherwise support additional operation and maintenance (O&M) requirements.

Practices and services have emerged to address similar conditions in the commercial marketplace. While not highly visible to the general public, C&D debris recycling businesses have been established to provide a cost-effective alternative to landfilling debris. The Construction Materials Recycling Association estimates there to be 4,000 to 5,000 companies in the United States in business to process concrete, asphalt, and other debris materials for recycle markets. Roughly 250 to 300 million tons of C&D debris are recycled annually, a far greater volume of recycled materials than are currently being recycled from beverage containers, newspapers, and other consumer wastes. Commercial salvage and deconstruction contractors also recover building materials for resale and reuse, either in their own businesses, or through used building materials outlets. Under the appropriate conditions, it is realistic to expect that over three quarters of a building's content can be salvaged for reuse or recycling.

Conventional demolition practices are well understood by installations' Directorates of Public Works (DPWs) or

Public Works Business Centers (PWBCs). Installations should explore other resources that are available in their locales that can remove buildings and find alternative outlets for the materials generated by demolition. The purpose of this PWTB is to provide Army installations with procedures, information, and resources that will enable them to implement alternative strategies to conventional demolition and landfilling.

Impacts of Landfilling Demolition Debris

It is important to recognize the total cost associated with conventional demolition and landfilling practices, and the impact these practices have on the installation. The following is a sample of the debris burden generated from demolition (weights include foundations and are approximate).

WWII-era wood frame 2-story barracks (5,380 SF)	400 tons
WWII-era wood frame warehouse (9,010 SF)	1,000 tons
Korean war-era reinforced concrete 3-story barracks (36,550 SF)	6,000 tons

The typical practice for demolition under both Facility Reduction and Military Construction scenarios is to allow the contractor to deposit debris in the installation's landfill at no cost. The rationale behind this practice is to reduce the demolition or construction contract costs. That is not an inappropriate motivation from a construction economy perspective.

From the solid waste management perspective, however, this practice shifts the cost from the installation's engineering and construction interests to the installation's solid waste management responsibility. Landfill life-cycle costs are reported by installations' solid waste managers to be roughly \$30 to \$50 per ton of debris. Other estimates are up to \$1 million per acre. Furthermore, it is unlikely that construction of new landfills, or expansion of existing landfills, will be permitted in the foreseeable future. When existing landfill capacity is exhausted, current tipping fees at offsite municipal or private landfills are roughly \$30 to \$90 per ton. This figure does not include hauling cost. The rapid rate of private and municipal C&D landfill closures across

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the United States indicates tipping fees will increase dramatically in the near future.

Policies Regarding Recycling, Salvage, and Deconstruction

The references cited at the beginning of this PWTB indicate that the Army has recognized the impact C&D debris has on the management of solid waste and is taking measures to reduce this burden and expense. The following discussions are especially relevant to the disposition of debris and materials generated by demolition activities.

The "Non-Hazardous Solid Waste Diversion Rate" Measure of Merit (MoM) requiring diversion at a rate of 40 percent by Fiscal Year 2005 includes nonhazardous C&D materials in its diversion calculations. As C&D constitutes the bulk of many installations' nonhazardous solid waste burden, targeting C&D debris can contribute significantly to an installation's achievement of this MoM. Modest diversion rates of C&D debris will have a significant overall impact on nonhazardous solid waste volume.

The Principal Deputy Assistant Secretary of the Army (PDASA) memorandum of 18 January 2001 indicates the Army is committed to seeking less expensive and less wasteful alternatives to disposing of surplus buildings, such as moving buildings or deconstructing them to salvage building materials. This memorandum also discusses the potential for community and nonprofit groups to reuse excess Army buildings or the materials removed from them.

The Assistant Chief of Staff for Installation Management (ACSIM) memorandum of 31 August 2001 requires that C&D waste management plans be included in the Scope of Work and bid specifications for C&D projects. The installation offices responsible shall review the plans, document and monitor implementation, and include C&D activities and quantities in their Solid Waste Annual Reporting (SWAR) report.

Unified Facilities Guide Specifications (UFGS) 01572, "Construction and Demolition Waste Management," indicates the Government policy is to "use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling and reuse." It also provides further guidance for the content and implementation of a C&D waste management plan. While the

use of UFGSSs by installations may not be mandatory, these documents are frequently adapted by installations for their own project requirements.

UFGS 02220, "Demolition," requires that salvage be pursued to the maximum extent possible (referencing the waste management plan required by UFGS 01572). It also indicates that title to material and equipment to be demolished is vested in the Contractor upon receipt of the Notice to Proceed. This provision provides an incentive to Contractors to salvage or recycle, and not to simply be obliged to perform these requirements with no compensation. UFGS 02220 also requires the Contractor to salvage items and materials to the maximum extent possible. Installations can develop specific criteria for minimum salvage or recycling levels, in lieu of generalizations such as "to the maximum possible."

The Air Force Center of Environmental Excellence (AFCEE) "Construction and Demolition Waste Management Guide" describes seven steps for planning C&D waste management strategies. These steps are:

- Identify contractors, markets, and other facilities, materials exchanges, and partnering organizations
- Identify existing local resources and determine how they can contribute to C&D waste management
- Identify environmental compliance requirements
- Quantify and characterize the potential annual C&D waste stream on the installation
- Identify the range of contracting options available to implement C&D waste management practices
- Develop a C&D waste management strategy
- Develop generic waste management plans.

The AFCEE guide provides data from the U.S. Environmental Protection Agency's (EPA's) "Characterization of Building Related Construction and Demolition Waste in the United States," developed by Franklin Associates in 1998. The

guide also provides 19 case studies as successful examples of C&D diversion strategies.

AFCEE's guide is intended to assist installations with developing plans for an installation-wide C&D waste management program. In principal, however, this guidance can also be applied at a Facility Reduction or Military Construction (MILCON) project level, as components of the ongoing C&D waste management responsibilities. This document is available through AFCEE's website at <http://www.afcee.brooks.af.mil/>

Feasibility of Recycling, Salvage, and Deconstruction

After hazardous materials and asbestos-containing materials (ACM) have been removed from a building, it is possible to recover or recycle the majority of a building's components and materials. Table A.1, at the end of this appendix, describes the most commonly recycled and salvaged building materials.

Several factors contribute to whether conventional demolition, recycling of debris materials, salvaging components for reuse, or deconstruction is feasible under a given combination of project conditions. These factors include:

- Cost constraints, considering initial cost of building removal services and life-cycle cost to landfill debris
- Time constraints, considering building vacancy, subsequent use of the site, or construction activities following the building's removal
- Project results, considering the expected condition of the site after buildings are removed
- Safety, considering the building's construction type, labor and equipment requirements, composition of the workforce, and handling of materials
- Risk, considering the Army's liability for materials sold or donated for recycling or reuse in the commercial market

- Willingness of installation personnel to implement alternative strategies
- Opportunities for economic and/or environmental benefits compared to conventional demolition
- The project's scope, what types of services are available in the region for removing buildings, and what types of projects will attract participation in the project
- Presence of lead-based paint (LBP)
- Site accessibility, and the availability of staging, working, and storage areas
- Landfill availability and debris burden
- Resources available in the buildings
- Market demand and value for materials that are from buildings and salvaged for reuse.

PWTB 420-49-32, "Selection of Methods for the Reduction, Reuse, and Recycling of Demolition Waste," describes recycling, salvage, and deconstruction as alternatives to conventional demolition. This PWTB also provides guidance on evaluating specific project conditions and assessing the feasibility of the various alternatives under various project conditions.

Objectives for Recycling, Salvage, or Deconstruction

The primary objectives for deconstructing buildings, salvaging building components and materials for reuse, and recycling debris materials, include the following:

- Diverting the maximum amount of waste from the installation's landfill, as practical under project conditions
- Removing buildings within an acceptable timeframe
- Removing buildings within an acceptable initial cost by reducing hauling and landfilling expenses, and by

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creating opportunities for contractors to accrue the economic value of the recycled and salvaged materials. Economic value can be achieved through cost avoidance, materials resale, or tax incentives to donate materials to nonprofit organizations

- Controlling life-cycle costs associated with operating the installation's landfill by preserving existing capacity and avoiding the necessity of expansion or new landfill construction, or costs associated with hauling and tipping debris at offsite facilities
- Providing materials and components that can be utilized in lieu of new materials and components, or recycled into materials useable on-post.

Consideration should be given to how materials will be used once extracted from buildings. Reusing building materials and components in their existing condition, reconditioning to increase their resale value, or reprocessing materials into higher value products is preferred. A hierarchy of preference for the disposal of materials is as follows.

1. Reduce (the resources invested in the building)
2. Reuse
3. Recycle
4. Compost
5. Burn
6. Landfill

Grinding or shredding otherwise useable materials into feedstock for some other product may, in some cases, be gross underutilization of the material. Grinding useable timbers into boiler fuel or landscape mulch would be one such example. However, even recycling in such a manner is preferable to simply landfilling and wasting the resource.

In accordance with the PDASA Memorandum of 18 January 2001, consideration should also be given to utilizing nonprofit organizations to provide services to assist in recovering, processing and reselling or reusing building materials. These may include housing providers (such as Habitat for Humanity [HfH]), national service organizations (such as National Civilian Conservation Corps [NCCC] / AmeriCorps), academic institution, community vocational and training programs, and similar potential sources of services.

Alternatives to Demolition and Landfilling

Deconstruction, salvaging materials and components for reuse, and recycling materials are means to achieve objectives. Actually achieving the objectives depends largely on the approach taken to removing buildings, and how effectively various diversion methods can be implemented. Five alternatives to simple demolition and landfilling are listed below and described in the following sections. These are:

- Specifying minimum diversion criteria within a conventional demolition contract
- Specifying deconstruction
- Sale or auction of buildings
- Contracting for nontraditional services, such as HfH
- "Best Value" contract award to maximize diversion (source selection)

Each general approach has advantages, disadvantages, opportunities, and limitations. Each is applicable within different sets of project conditions and constraints. Variations are also possible within each general approach, and thus each approach must also be adapted to the installation's practices.

Specifying Minimum Diversion Criteria

Including criteria for recovering and recycling building materials in an otherwise conventional demolition specification is a straightforward, easily implemented method to divert debris from the waste stream.

UFGS 02220, "Demolition" is an appropriate statement of requirements for a demolition contract under the Facilities Reduction Program, although it would have to be adapted to the installation's own practices and formats. These requirements can be included within a Job Order Contract (JOC) task description, or can be included in a bid solicitation for demolition services. As a guide specification for MILCON, UFGS 02220 is edited by U.S. Army Corps of Engineers (USACE) personnel or contracted

architectural/engineering (A/E) services for inclusion in a MILCON Construction Contract Document.

As just discussed, this specification requires salvage to the maximum extent possible. However, no definitive materials or quantities for salvage are given. The specification's paragraph 3.4.1, "Salvageable Items and Materials," is an appropriate place to include a list of materials to be salvaged and recycled and the minimum quantities of each material. Quantity may be expressed by weight or by percent of the total quantity in the building. Installation personnel, or USACE personnel for a MILCON project, will have to estimate the total weight of each material in order to first specify a reasonable quantity and then to verify that the specified amount is recycled.

The installation must identify materials to be reused or recycled on-post. These may include asphalt, clean concrete, clean masonry debris, clean wood, doors, windows, and hardware, serviceable plumbing fixtures and equipment, serviceable heating and cooling equipment, and serviceable electrical components and light fixtures. Installations with crushing equipment (or contracted services) could utilize rubble for trails, erosion control, fill, or similar uses in lieu of purchasing quarried gravel materials. Installations with grinding equipment (or contracted services) could use clean wood debris for mulch.

Vesting title to salvaged and recycled materials for the contractor's use is critical to the feasibility of recovering and recycling materials. Otherwise, segregating and handling materials is an expense without compensation. A contractor's incentive to recycle must be based on the potential economic return. This is most typically achieved through sales of the materials to recycling outlets or used building materials establishments.

Alternatively, the contractor may donate materials to a nonprofit organization, which enables them to take credit for the value of the materials as a donation in their income tax calculations. As a rule, serviceable used materials are generally valued at roughly half of the comparable new material's value. Used building materials sales outlets may provide price schedules, or may provide receipts itemizing the materials and allow the donor to establish their own value.

A submittal requirement must also be incorporated into Part 1 of the specification to require the Contractor to document their results. This documentation should record the following:

- Each type of material salvaged or recycled
- Quantity of each material salvaged and recycled, typically by weight
- Destination for each salvaged and recycled material
- Amount of debris deposited in a landfill.

There is no single list of materials or quantities applicable to all demolition situations. When specifying salvage or recycle requirements, care must be taken to (1) ensure that a worthwhile degree of waste diversion is required and accomplished, and (2) the criteria are realistic under specific project conditions. The list of materials given in Table A.1 should not be incorporated verbatim. Considerations must include the following:

- The buildings' construction type and content, and the materials available
- Scope of the demolition task and the potential quantities of materials that can be salvaged or recycled
- Demolition method, whether materials will remain generally intact or will be damaged, whether materials can be segregated, or whether materials will be commingled as debris
- Cost of debris disposal
- Availability of space at the demolition site to sort and handle materials
- Availability of time at the demolition site to sort and handle materials
- Effort and expense involved with extracting and handling materials

- Availability of outlets and salvaged or recycled materials' values.

Requiring recycling without considering the expenses involved and the status of the marketplace can be counter-productive to both the installation and the contractor. Public Works personnel, or USACE District personnel for a MILCON project, must become familiar enough with the marketplace to specify salvage or recycling requirements that can be accomplished within the cost and time constraints of the project. PWTB 420-49-32 provides sources of information for recycling businesses, used materials outlets, materials exchanges, public agencies promoting recycling, and other recycling-related sources. This information is presented in a state-by-state format, so regional availability of resources and services is easily identifiable.

Alternatively, the installation can require the contractor to develop and submit a demolition waste management plan. The contractor would establish their own diversion criteria, based on their knowledge of the services and markets available in the region. This plan would require the following:

- Description of the approach taken to demolish buildings and salvage or recycle materials
- Participation by any nontraditional service such as nonprofit organization or vocational training programs
- Characterization of materials to be recycled by type and quantity
- Destination where recycled or salvaged materials will be taken, and description of materials' end uses
- Characterization of debris (i.e., materials that cannot be salvaged or recycled)
- Cost impacts.

In this way, the contractor can establish criteria they feel are reasonable and achievable. The contractor will then be obliged to conform to these criteria. Installation or USACE personnel must, however, be familiar with the

local marketplace and industry capabilities to ensure the contractor is making a good faith effort to use the resources available to them, and maximize diversion to the extent practical within the project's time and cost constraints. The installation or USACE District should reserve the right to request revisions to the plan if they feel the contractor is underutilizing the opportunities available to them.

UFGS 01572, "Construction and Demolition Waste Management," is an appropriate model for installations to incorporate into their JOC task description or bid solicitation document.

Under a conventional demolition scenario, the contractor would remove the buildings essentially by mechanical ripping and/or crushing. The contractor could salvage and recycle materials by:

- Removing materials prior to demolition
- Pulling out various material types as demolition progresses, or sorting the commingled debris onsite
- Hauling the debris to a C&D debris recycling firm.

Removing materials and components prior to demolition (also referred to as "cherry picking") allows serviceable items to be removed intact, preserving their reuse potential and value. These typically include doors and windows, casework, architectural millwork, finish materials that are in suitable condition, mechanical equipment, electrical distribution components and cabling, light fixtures, and electrical equipment. Note that hazardous materials (such as PCB-containing ballasts, mercury switches and thermostats, and mercury-containing fluorescent tubes) must be removed from electrical components and disposed of according to the prevailing regulations. As materials are removed, they can be collected and sent directly to the outlet, avoiding double handling or sorting later. Other materials that may have only scrap value can also be taken prior to demolition where they are accessible. Materials that cannot be extracted prior to demolition, such as structural materials, must still be sorted and removed during or subsequent to mechanical demolition. Performing extensive predemolition salvage will extend the demolition duration. In general terms, the more time available, the

more effective the salvage will be. Where schedule constraints provide only the minimum of time to clear the site, pre-demolition salvage may not be cost-effective. Where there may be no particular pressure on the site to demolish, salvage can be more effective.

The contractor may sort materials onsite by more deliberately removing recyclable materials as demolition progresses and placing each type in its own pile. This sorting is accomplished with the demolition equipment (typically a hydraulic excavator), as personnel cannot occupy a building while it is being demolished. Sorting reduces double handling. Some hand-sorting may be useful on the ground. Alternatively, the contractor may simply bring the whole building down, and then sort through the debris to extract recyclable material, typically with a hydraulic excavator. Either of these approaches is generally effective for recycling basic construction materials such as steel framing members and deck, ferrous metals, concrete, or major wood members. The damage inflicted on materials by demolition will render them useful only as scrap, rubble, or feedstock for other products. Furthermore, the equipment will be able to pick up only larger pieces or components, leaving the smaller pieces commingled in the debris.

The contractor may also bring the whole building down, and simply haul the debris to a C&D recycling facility. C&D recycling facilities typically charge less for tipping debris than would a commercial or municipal landfill, therefore saving the contractor some expense. The recycling facilities use conveyers to transport the commingled debris along a "pick line," where large enough pieces are manually pulled off and segregated into individual piles or bins. What is not manually removed can be crushed and magnetically extracted or sifted through screens and sorted. The extracted materials are typically sold as scrap, rubble, wood chips, or mulch. Items unsuitable for grinding are removed and landfilled.

Project administration should not differ fundamentally from a conventional demolition project. The primary difference will be to require the contractor to document recycling activities, and types and quantities of materials recycled, and for the installation's site representative, or USACE Resident Engineer, to monitor and verify the contractor's performance. The contractor must report to the

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installation the types and quantities of materials they are salvaging and recycling so the installation can take credit in its SWAR report.

Specifying Deconstruction

The installation can specify deconstruction as the required method of building removal. This method can then be implemented in a similar manner to performing a demolition task on a JOC contract, or soliciting for demolition services.

Deconstruction involves disassembly of the building in essentially the reverse order of construction, for the purposes of maximum reuse and recycling of materials, and in a safe and cost-effective manner. Steel-framed buildings can be disassembled, although deconstruction is most commonly associated with wood-frame buildings.

If the installation is soliciting bids for deconstruction services, it is strongly encouraged to seek and include on its bidders' list salvagers, recycling firms, used building materials outlets, demolition contractors who practice salvage and recycling, and contractors who specialize in deconstruction. Additional advertising in local and regional media will also be beneficial to attract participation by businesses that may not normally monitor Government advertisements. PWTB 420-49-32, "Selection of Methods for Reduction, Reuse, and Recycling of Demolition Waste," describes resources and services available on a state-by-state basis.

The net cost of deconstructing wood-frame buildings and returning a clean site – similar to conventional demolition services – should be competitive with conventional demolition. The initial cost to the contractor will be higher, but should be offset to a large extent by the value of the salvaged materials. Therefore, title to nonhazardous materials must accrue to the contractor. Otherwise, deconstruction is expense without compensation. Where the contractor would be required to deposit debris in an off-post landfill, the hauling and tipping costs to the contractor would be reduced, which should result in a lower price or bid to the installation. Where the installation operates a C&D landfill on-post, cost avoidance is achieved through reduced landfill life-cycle expenses.

Unlike conventional demolition, buildings' contents are critical to deconstruction economy. Lumber is typically the most sought after material, although recently installed products and equipment are also valuable on the used building material market. Accessibility to materials, and the effort to salvage them, affects deconstruction cost. Especially important are the interior partitioning and finishes that have been added over the buildings' lives. Removing drywall and resilient flooring and underlayment represent additional effort and generate greater amounts of debris versus salvageable materials. The installation must provide current descriptions about each building to be deconstructed. First-hand inspection is preferable. As a minimum, provide current floor plans and framing construction documents in the solicitation or task description package.

The time required to disassemble a building will be longer than that required for simple demolition. It may require a week to disassemble a typical two-story barracks building with a crew of 12. Additional time will be required to remove nails and process the salvaged materials. Use of construction equipment to remove sections of buildings – as opposed to board by board – may be feasible and should reduce the deconstruction duration. The University of Florida Center for Construction and Environment is conducting research on alternative techniques. A model specification for deconstructing buildings is included as Appendix B.

Once the contract is initiated, project administration should proceed in a manner similar to a conventional demolition project. The contractor must report to the installation, by type and quantity, the materials that have been salvaged for reuse and recycled for their SWAR report.

Sale or Auction of Buildings

Fort McCoy, WI has adopted a standard practice of selling surplus World War II (WWII)-era buildings through competitive bidding. In summary, the Fort McCoy Directorate of Public Works (DPW) and Corps of Engineers' Omaha District developed a process to advertise buildings for salvage. Local interests, consisting mainly of individuals, families, and small building contractors, bid competitively for the buildings. The successful bidder signs a contract and makes payment to the Treasurer of the

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United States. Fort McCoy removes all asbestos and hazardous materials before the Purchaser begins work. The Purchaser then dismantles the building to the foundations and removes the salvaged materials for their own use. Lumber is typically the most valuable and most sought after material. Debris is deposited in receptacles provided by Fort McCoy. The DPW then disposes of the debris in the on-post landfill.

Omaha District administers real property and contract transactions. The contract includes requirements for safety training, period of performance, deposit requirement, disclaimers and hold harmless provisions, and provisions for disposing of debris. The Purchaser is responsible for removing the building materials with the exception of foundations and floor slabs. Foundations are removed and provided to Engineering Battalions to crush onsite and use in their exercises and around the Fort McCoy property.

The Fort McCoy DPW reports that, since 1992, over 140 buildings have been deconstructed, for an estimated savings of \$3.5 million. PWTB 420-49-30 describes the Fort McCoy procedures in detail. A copy of a recent solicitation is also included in Appendix C.

The Fort Knox Recycling Program has established a similar program for recycling surplus buildings. This program differs from the Fort McCoy program in that Fort Knox sells recycle rights to the parties performing deconstruction, as opposed to selling the building. In this way, revenues return to the Fort Knox Recycle Program instead of the Treasurer of the United States. The Recycle Program administers the process and conducts public auctions instead of sealed bidding. This process takes place during a 6-week window inserted into an otherwise conventional demolition schedule. When abatement activities and McKinney Act screening are completed, the property is transferred to the Recycle Program, whereupon it advertises, conducts the auction, sells recycle rights to the building, and completes the contract. The Purchaser then salvages materials and removes debris from the site.

The Recycle Program requires the Contractor to remove a minimum of 50 percent of the building's weight (excluding foundations). When salvage is completed, the Recycle Program transfers the property back to the DPW, which then contracts for demolition services to remove the remainder

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of the debris. The demolition contractor then separates concrete and masonry rubble and any leftover metal materials for recycling.

The contract includes criteria to extract a minimum volume of salvaged materials, safety requirements, period of performance, disclosure statements for lead-based painted materials, identification, site security, and times of the day at which salvage activities may take place.

The Purchaser must report to the installation the types and quantities of materials they are recovering so (1) the installation can take credit in its SWAR report, and (2) to verify salvage of the minimum amount of materials.

The Fort Knox Recycle Program reports the following results in roughly 3 years of operation:

- 258 buildings recycled
- 451 Family Housing apartments recycled
- 153,468 tons of debris diverted from the Fort Knox landfill
- Life of the landfill extended by 20 years
- \$1,534,680 in landfill savings
- \$1,253,893 in potential demolition savings
- \$256,085 in new income generated for the Recycle Program.

Appendix C includes an example solicitation document from the Fort Knox Recycling Program.

Fort Campbell, KY, has solicited to sell one building as a pilot project, using a process similar to that used at Fort McCoy. Lessons learned will be developed when this building is sold and removed. This solicitation is also included in Appendix C. Fort Campbell will continue to solicit for the sale of additional surplus WWII-era wood-frame buildings.

Both Fort McCoy and Fort Knox have emphasized the necessity of widely publicizing bidding or auctions within their

communities, fostering good community relations, and refining the process to respond to their constituencies. Initially, response to solicitations was modest. Participation improved over time, however, as the programs became better known. Installations considering sales or auction of buildings for salvage are cautioned to be patient with this method and to seek ways of enhancing community participation with each subsequent project.

Contracting for Nontraditional Services

Installations should evaluate the potential for using nontraditional services such as HfH and other nonprofit housing providers and service organizations. HfH has developed a capability to deconstruct wood-frame buildings and resell the salvaged materials through the service's ReStore network.

This capability is available to Army installations for removal of WWII-era wood buildings. The Reuse Development Organization (ReDO) can also be instrumental in identifying or developing outlets for salvaged materials. Other comparable organizations operate on a more local or regional basis. The following describes a process for engaging HfH as a deconstruction and salvage resource. Other organizations may follow somewhat different processes. The HfH affiliate at Austin, TX can be contacted at <http://www.austinhabitat.org/>. ReDO can be contacted at <http://www.redo.org/>.

Cost and time considerations for deconstructing wood-frame buildings are discussed in the previous section, Specifying Deconstruction.

The Austin, TX, affiliate has been designated by Habitat International as HfH's center of expertise for deconstruction. HfH Austin will partner with local affiliates. The resources applied to any specific project will depend on the project's requirements and capabilities of the local HfH participants.

Concern has been expressed that such nonprofit organizations may rely on volunteers who do not necessarily possess the construction skill or management expertise required for Army projects. These are legitimate concerns. The Army must not compromise on construction safety and occupational health. An installation will not want to risk that an

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organization may be unable to complete the Work once it is started. Ability to obtain insurance and bonding are also of concern.

HfH will act essentially as a general contractor for deconstructing Army buildings. For Army deconstruction projects, HfH will assemble a workforce. The NCCC/AmeriCorps is one source of volunteers. HfH will obtain construction management consultants, a site superintendent, and subcontractors for tasks the workforce cannot perform (such as concrete removal). Volunteers receive deconstruction and safety training before beginning deconstruction activities. HfH is conversant with the requirements of the Occupational Safety and Health Administration's (OSHA's) 29 CFR Part 1926, Section 62 (Lead) and Subpart T (Demolition). HfH is also insured and can obtain bonding. The installation, however, must ensure these capabilities will be in place for any specific deconstruction project.

For HfH to be able to perform deconstruction services, some adjustments will have to be made in the project planning activities. HfH cannot initiate a deconstruction project in the same manner as a JOC contractor preparing a price proposal, or a conventional demolition contractor preparing a bid for demolition. Consideration should be given to the following.

A minimum scope would be necessary to justify assembling resources and mobilization. At present, HfH would require at least 7 to 10 typical WWII-era barracks, administrative, or warehouse buildings, or an equivalent scope (in square feet of building). Rather than release two or three buildings at a time over several months, the Master Planning division could release them less frequently, but in numbers large enough to enable HfH to participate.

Submitting buildings for McKinney Act screening must take place as it would under a routine demolition requirement. McKinney Act screening cannot be waived, even though the building and/or materials will pass to a nonprofit housing provider.

Sufficient lead-time must be allowed to enable HfH to assemble resources. The critical resource is the workforce. NCCC/AmeriCorps accept applications for volunteers on a quarterly basis for review and approval. NCCC/AmeriCorps volunteers are not available on an as-

needed basis. At present, the application and approval process may require 2 months, depending when in the cycle the application is submitted. It may be possible in the future to expedite arrangements between HfH and NCCC/AmeriCorps to will enable HfH to respond more quickly to installations' building removal schedules.

Unlike conventional demolition, the building's content is critical to establishing a price for HfH's services. HfH must be given the opportunity to survey buildings and determine the types and quantities of materials that can be salvaged for reuse, and the effort that will be required for their removal. Especially important are the interior partitioning and finishes that have been added over the buildings' lives. Deconstruction is also considerably more complex than mechanical demolition. A project deconstruction plan must be developed to determine the appropriate layout of the site for materials staging and processing, as well as activities and resource scheduling.

Asbestos and ACM must be removed from the buildings prior to beginning deconstruction. The installation must terminate electrical, gas, sanitary, and water utilities before deconstruction begins. Preferably water, sanitary, and gas lines should be capped prior to deconstruction. Removing electrical service drops is a task better performed by the installation.

The installation should, if possible, maintain utilities to one of the buildings to be deconstructed. This will provide HfH with a field office, training facility, potable water, field toilets, and a source of water for dust control. This building would be the last to be deconstructed by HfH. Providing these services will reduce HfH's expense, thereby reducing the installation's cost.

The installation should consider excluding foundation removal and grading and seeding from HfH's Scope of Work. The NCCC/AmeriCorps (or other similar organization) workforce will be better suited to perform building deconstruction tasks than concrete demolition or earthmoving. The installation should evaluate whether performing these services with in-house resources, or assigning them under a JOC, would be more economical than having HfH subcontract this part of the Work.

Appendix B is a model specification for deconstructing buildings. An appropriate statement of requirements, this specification should provide the desired results for the installation and enable HfH to perform the services.

Once HfH is under contract or agreement, project administration should proceed in a manner similar to a conventional demolition project. Contracting considerations are discussed in the next section. HfH must report to the installation the types and quantities of materials they are recovering so the installation can take credit in its SWAR report. As a deconstruction project will take longer than conventional demolition, the installation must ensure HfH's quality management and safety management programs are upheld throughout.

"Best Value" Contract Award To Maximize Diversion

Specifying a single building removal method precludes options, and may not achieve the best economic or environmental results for the installation. Demolition may not allow, or may not provide the incentive for extensive salvage and, therefore, lower overall cost to the installation. Time constraints frequently discourage salvage. Without incentive, the path of least resistance is almost always to landfill debris. Conversely, deconstruction can be specified as the required method. Without a high level of certainty that the value of salvaged materials can offset cost, however, this method may result in an increased cost to the contractor and, therefore, the installation.

It can be advantageous for the installation to issue a Request for Proposal (RFP) to the construction industry at large. The RFP solicits proposals for removing the buildings, as opposed to requiring demolition, deconstruction, or salvage of some minimum quantity of materials. Any strategy or method would be acceptable, within the parameters defined in the RFP. The installation would evaluate proposals and enter into an agreement with the proposer offering the best value for performing the Work in terms of price and technical merit. The installation must establish priorities and preferences, and must define them in the RFP as evaluation criteria. These may include the following:

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- Building removal methods, considering techniques to maximize materials' recovery and minimize debris
- Waste management plan, considering the most effective approach to reusing or recycling materials, including providing materials to the installation for on-post recycling
- Proposer qualifications, considering experience and resources assigned to the project
- Project management plan, considering project planning and logistical, quality, and safety management
- Project schedule, considering time required to clear the buildings' sites and overall project duration
- Price, considering the initial contract cost and other life-cycle cost benefits to the installation.

In this way, the prevailing economies and resources would allow the most favorable strategy to emerge. A construction management analogy would be to offer the buildings' removal as a Design-Build project.

There are several advantages to a best value contract:

- Innovation and efficiency is encouraged.
- The solicitation can attract participants who do not typically respond to conventional demolition solicitations. These parties can bring innovative solutions to building removal requirements that are not necessarily applied to conventional demolition practices.
- Factors other than lowest first cost can be incorporated into the basis for contract award, such as diverted debris, life-cycle cost savings, or participation by community services. A contract can be awarded to other than the lowest priced proposer, if the value to the Government is commensurate with the price.
- While Source Selection may not be the most commonly used contracting method, Source Selection procedures are established in Federal acquisition guidance

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(Federal Acquisition Regulation [FAR] Part 15). There should be no reluctance or difficulty in applying these procedures at the installation level.

Best Value Source Selection procedures, however, may not be applicable to all building removal requirements. Consideration must be given to the project's scope, resources available within the installation's locale, and the time available to enact the contract.

The scope of the building removal project must be sufficient enough to attract participation. Developing proposals will require an investment by proposers. The requirement to bring demolition, salvage, recycling services, and used materials' outlets to the project will also require proposers to coordinate among the various parties for proposal development. The potential for recovering materials for resale and reuse must justify this investment. The attractiveness of the project also depends on the buildings' construction type(s), types of materials available in the buildings, and market demand for the salvaged or recycled materials. There are no specific minimums for square footage or for building, inventory, or dollar value of the contract that would justify proposal development. Evaluation of the materials available in the buildings (see Table A.1) and availability of service in the installation's locale will help determine the feasibility of initiating a Source Selection approach to removing buildings.

The time available to enact a contract must be sufficient to allow for the advertisement, proposal, and evaluation process. Depending on the scope and complexity of the project, this can take significantly longer than conventional competitive bidding.

Firms that engage in deconstruction, salvage, or recycling may not typically pursue Federal projects and, therefore, may be unfamiliar with Federal advertising media and procedures. The installation should, therefore, announce its projects to an expanded list of addresses, including HfH Austin TX, the ReDO, the Used Building Materials Association, the Construction Materials Recyclers Association, used materials exchanges and directories, and other similar organizations. Consult PWTB 420-49-32 for sources of services in the installation's locale.

Vesting title to salvaged and recycled materials for the contractor's use is critical to the feasibility of recovering and recycling materials. Otherwise, recovering and handling materials is an expense without compensation. Contractors' incentive to salvage and recycle must be based on their potential economic return. This compensation is most typically achieved through sale of the materials to recycling outlets or used materials sales establishments.

Alternatively, the contractor may donate materials to a nonprofit organization. This enables them to take the value of the materials as a donation in their income tax calculations. As a rule, serviceable used materials are generally valued at roughly half of the comparable new materials value. Used building materials sales outlets may provide price schedules, or may provide receipts itemizing the materials and allow the donor to establish their own value.

A model RFP is included as Appendix D. As Source Selection is an accepted acquisition process, no further description of procedures is provided in this PWTB. The model RFP includes procedures, evaluation criteria, instructions to proposers, special contract clause considerations, and specifications applicable to a building removal project.

Environmental Considerations

As the installation would typically remove asbestos and ACM from a building prior to releasing it to a contractor for demolition, there are no other measures required with regards to salvage or deconstruction. In a conventional demolition project, however, the contractor must be alert to the presence of asbestos and ACM that may have been concealed and was not removed. The same precautions for stopping work until the hazard is abated should apply to salvage or deconstruction activities.

One area of concern involves exposure of a nontraditional workforce (such as HfH volunteers) to undetected asbestos and ACM. The same precautions for stopping work until the hazard is abated should apply. Contract requirements should ensure that persons knowledgeable about asbestos and ACM are present on the site, and that the safety training includes asbestos and ACM recognition.

Fort Campbell has included the following disclosure statement for asbestos in their solicitation to sell a building by public bidding.

ASBESTOS NOTICE. Fort Campbell will remove any asbestos discovered in the building. All such material is believed to have already been removed by Fort Campbell. The Bidder is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the purchaser will immediately inform the Fort Campbell Representative. Federal laws require asbestos removal operations in accordance with the following standards:

a. National Emission Standards for Hazardous Air Pollution (40 CFR Part 61 as amended)

b. Standards on Respiratory Protection and Asbestos (29 CFR 1910.134 and 29 CFR 1910.1001).

c. U.S. Army Corps of Engineers General Safety Requirements (EM 385-1-1).

If asbestos is confirmed to exist in the building after the Purchaser receives written Notice to Proceed, the purchaser will be provided written notice to stop work. Fort Campbell will promptly remove such material and give the Purchaser written notice when to resume salvage and removal work.

The bidder specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Purchaser and/or his/her associated personnel.

Provisions for removing Mercury (Hg)-containing materials, fluorescent tubes, and ballasts containing polychlorinated biphenyls (PCBs) should also be similar to a conventional demolition project.

The presence of LBP on WWII-era buildings is the most frequently cited reason for not salvaging the materials. Uncertainty about regulatory constraints and liability

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fears are the two primary contributing factors. A common policy on many installations is to not allow painted exterior siding and other wood materials to leave the installation. The major concern is that the Army will be held liable for any harm suffered as a result of the subsequent use of these materials.

Used building materials do not fall under Resource Conservation and Recovery Act (RCRA) waste regulations until they enter the waste stream. The Department of Housing and Urban Development (HUD) final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing" (61 Federal Register [FR] 9064-9088), requires the disclosure of the presence of lead when selling or renting "target housing" properties, with the emphasis on preventing young children's exposure to lead.

Used building materials outlets, both commercial and nonprofit, commonly sell painted items. Where the presence of LBP is known or suspected, a disclosure statement is issued. Fort McCoy, Fort Knox, and Fort Campbell include LBP disclosures in their deconstruction solicitations. Fort Campbell has included the following disclosure:

LEAD-BASED PAINT DISCLOSURE. The Bidder is hereby informed and does acknowledge that lead-based paint was commonly used at the time this building was constructed and/or modified and may exist on painted surfaces of the building or within the building and/or its associated structures. In accordance with the Environmental Protection Agency and the Department of Housing and Urban Development's final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing" (61 FR 9064-9088), a federally approved lead hazard information pamphlet and disclosure of any known lead-based paint and/or lead-based paint hazards will be provided to a potential bidder upon request and to the purchaser upon contract award. The property may be inspected for lead-based paint during time specified in paragraph 1 of the specific terms and conditions, or scheduled at a time after that date. Inspection must be scheduled with the Fort Campbell Representative.

If an LBP survey of the building has been performed, the installation should provide that summary to prospective the contractor or party providing deconstruction services.

Occupational hazards associated with removal and handling of painted materials are also a concern. Provisions of 29 CFR 1926, Section 62 of the OSHA Construction Safety Standards govern lead exposure in construction and demolition sites, and should be applied to salvage and deconstruction projects. Lead hazard training must also be included with worker safety training.

Contracting Issues

Contract practices for building removal that allows or requires salvage, deconstruction, or recycling should not differ significantly from a conventional demolition contract. Some provisions, however, must be addressed in order to ensure the project can be completed to achieve the installation's objectives of economy and solid waste diversion.

Critical to the feasibility of recovering or recycling materials is the contractor's opportunity to offset higher costs of removing materials with the value of the materials. The contractor cannot be limited to disposing of all materials in the installation's landfill. Therefore, title to the materials must transfer to the contractor to enable them to achieve an economic return.

The applicability of the Davis-Bacon Act to deconstruction has been questioned, especially where nontraditional resources may be applied. If all labor were to be paid Davis-Bacon wages, deconstruction would be extremely expensive in first cost compared to traditional demolition. Application of Davis-Bacon would virtually preclude participation by nontraditional service organizations, such as HfH or NCCC. However, per Department of Labor and the Engineer Research and Development Center's (ERDC's) Vicksburg Construction Branch, deconstruction (no new construction following the deconstruction) is not subject to the Davis Bacon Act. It is considered a "service"; therefore, the Service Contract Act and applicable wage determinations apply.

Adjustments to the traditional contract mechanisms or practices should be applied where possible. Installations

should develop building removal projects so they provide sufficient scope to attract the necessary deconstruction, salvage, and recycling services, as described above. The application of Source Selection Best Value procedures was also discussed in an earlier section. Even within the constraints of competitive bidding, where deconstruction is required or minimum criteria for waste diversion are specified, adjustments to scheduling and advertising practices can be made to attract the appropriate services. These services may be identified through HfH Austin TX, ReDO, the Used Building Materials Association, Construction Materials Recyclers Association, used materials exchanges and directories, and other similar organizations. Consult PWTB 420-49-32 for sources of services in the installation's locale.

Project Administration

Once under contract, administering a building removal project will not differ fundamentally from a conventional demolition project, or for that matter a construction project. The installation's construction representative must ensure conformance to the contract requirements, and that the installation's expectations are met upon completion of the project. If a nontraditional service such as HfH is performing the Work, emphasis should be given to monitoring their safety management program.

The following table describes building materials that are commonly salvaged for resale and reuse, and/or are recyclable. Note that all materials may not be present in any one building or group of buildings. Note also that the salvage value of materials varies according to the quantity of materials present in the buildings, materials' condition, the availability of used materials outlets or recycled materials processors, and the local market.

Table A.1. Reusable and Recyclable Building Materials

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
Division 02, Sitework		
Land Clearing Debris	Recyclable	Wood landscape materials can be shredded into landscape mulch.
Ductile Iron Distribution Systems	Recyclable	Ductile iron pipe and fittings may have a modest scrap value. Valves and controls may be reusable, depending on age and condition.
Elevated Steel Water Tanks	Recyclable	Structural steel is recyclable as scrap.
Wood Poles	Reusable	Poles are commonly reused if in a suitable condition. Some commercial utilities accept or purchase used poles in good condition.
	Recyclable	Preservative-treated wood poles unsuitable for reuse can be ground into boiler fuel.
Corrugated Metal Pipe	Recyclable	Drainage piping may have a modest scrap value.
Catch Basins & Manholes, Concrete	Recyclable	Concrete drainage structures can be broken and crushed for concrete aggregate. Separating concrete from reinforcing bars is practical; separating from welded wire fabric (common with precast units) is problematic.
		Ferrous metal components (grates, ladders, manhole covers, etc) can be reused or recycled as scrap.
Asphalt Paving	Recyclable	It is common practice in many regions to stockpile and recycle asphalt removed from pavement. Equipment is also available to remove, grind, remix, and relay asphalt in a single operation.
Concrete Paving	Recyclable	Clean concrete can be crushed to meet jurisdictions' specifications for base aggregate, compacted fill, and other engineered applications. Reinforcing can be removed by magnetic separators.
		Presence of dirt, fines, and other inert contaminants may still be tolerable in loose fill or erosion control applications.
Unit Paving	Reuseable	Paving bricks are a marketable commodity in most regions,

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		especially when the same style is available in large quantities.
Misc. Site Structures & Appurtenances	Recyclable	Concrete structures can be broken and crushed for aggregate. Separating concrete from reinforcing bars is practical; separating from welded wire fabric (common with precast units) is problematic.
		The quality and usefulness of recycled concrete depends largely on the presence of dirt, fines, and other contaminates.
Chain Link Fence	Reusable	Chain link, accessories, and hardware can be reused several times if appearance is not critical. Poles may be reused if not embedded in concrete, or where attached concrete can be broken off without bending the pole.
Wood Fence	Recyclable	Wood that is not preservative-treated, stained, or painted (most commonly cedar) can be ground into landscape mulch.
Concrete Retaining Walls	Recyclable	Clean concrete can be crushed to meet jurisdictions' specifications for base aggregate, compacted fill, and other engineered applications. Reinforcing can be removed by magnetic separators.
		Presence of dirt, fines, and other inert contaminates may still be tolerable in loose fill or erosion control applications.
Sheet Pile Retaining Walls	Reusable	Sheet piling is commonly reusable. Damaged piles unsuitable for reuse can be recycled as steel scrap.
Stone Retaining Walls	Reusable	
Division 03, Concrete		
Steel reinforcing	Recyclable	Reinforcing steel is separated during crushing operations and is recyclable as scrap.
Cast-in-Place Concrete	Recyclable	Clean concrete can be crushed to meet jurisdictions' specifications for base aggregate, compacted fill, and other engineered applications. Reinforcing can be removed by magnetic separators. Dirt, masonry rubble, fines, and other inert

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		contaminates would have to be screened out of the aggregate.
		Presence of dirt, fines, masonry rubble, and other inert contaminants may render the aggregate unsuitable for specification grade applications, but may still be acceptable in loose fill, trails, or similar applications.
		Wood, fibrous materials, adhered finished, and other non-inert debris should be separated from the concrete debris prior to crushing. Removing these materials prior to demolition may be more practical.
Precast Concrete	Recyclable	Precast concrete members have been removed from their original structures and reused intact. However, this would require analysis to verify their adequacy for a new application. This may be impractical in most cases. Recycling the concrete and reinforcing materials may be the practical recourse.
Division 04, Masonry		
Concrete Unit Masonry (CMU)	Recyclable	CMU can be crushed into a granular fill or trail topping. Reinforcing can be separated during crushing by magnetic conveyors.
Brick Unit Masonry	Reusable	Unbroken used bricks are a marketable commodity in most regions, especially when the same style is available in large quantities. Clean bricks and solid bricks command higher prices.
	Recyclable	Bricks can be ground into landscape materials or crushed for other granular fill applications.
Division 05, Metals		
Structural Steel	Recyclable	Structural steel shapes are routinely separated out of demolition debris and recycled as scrap. Larger members are frequently returned to the mill.
Structural Aluminum	Recyclable	Structural aluminum shapes are a high-value recycle commodity.

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
Metal Joists	Recyclable	Joists are routinely separated out of demolition debris and recycled as scrap.
Steel Deck	Recyclable	Steel deck is routinely separated out of demolition debris and recycled as scrap.
Cold Form Metal Framing	Reusable	Light gage steel studs and joists can be removed and reused if not damaged during removal. Light gage trusses can be reused if not damaged during removal. However, reuse would require a thorough analysis to verify adequacy for the intended application, which may be impractical in many cases.
	Recyclable	Metal framing systems (rafters, trusses, studs, channels, and joists) are routinely separated out of demolition debris and recycled as scrap.
Metal Fabrications	Recyclable	Ferrous metal grates, stairs, rails, and other fabrications are routinely separated out of demolition debris and recycled as scrap.
Ornamental Metals	Reusable	Steel and wrought iron components are routinely removed prior to demolition and reused. Architectural metals such as brass and stamped copper are a relatively high-value artifacts.
	Recyclable	Ferrous metal components with no other after-market value are routinely recycled as scrap. Aluminum and copper components are high-value recycle commodities.
Division 06, Wood and Plastics		
Wood Framing	Reusable	Wood framing can be reused if not damaged upon removal. 2X8s and larger are the more marketable commodities. 8-ft lengths are typically the preferred minimum, although shorter pieces can also be used as blocking and fillers.
		Remilling old growth lumber into architectural millwork is an emerging market.

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
	Recyclable	Clean wood members (not preservative-treated or painted) that are damaged or too short to be reused can be shredded for landscape mulch. Nails can be removed during shredding by magnetic conveyers.
Wood Decking	Reusable	Clean wood decking is commonly reused. Cedar species, tongue-and-groove shapes, and an antique "distressed" finish surface are desirable characteristics in the used building materials market.
	Recyclable	Clean wood decking (not preservative-treated or painted) that is damaged or too short to be reused can be shredded for landscape mulch. Nails can be removed during shredding by magnetic conveyers.
Sheathing	Reusable	Plywood sheathing can be reused if removed in whole- or half-sheets that are not damaged upon removal.
		Board sheathing can be reused if it is not damaged or too brittle. Refinishing old growth 1-in. board for architectural millwork is an emerging market.
		Oriented Strand Board sheathing can be reused if removed in whole- or half-sheets that are not damaged upon removal.
	Recyclable	Clean board sheathing (not preservative-treated or painted) that is damaged or too short to be reused can be shredded for landscape mulch. Nails can be removed during shredding by magnetic conveyers.
Engineered Wood Products	Reusable	Composite joists and trusses can be reused given their intended spans, support and panel points, and loading conditions are consistent with their original design.
Glue-Laminated Construction	Reusable	Glue-laminated columns, beams, and arches are generally valuable in the used building materials market. Reuse as structural members will require analysis to verify their adequacy for their new application.

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		Micro-laminated and parallel strand members can be reused if not damaged during removal. Reuse as structural members will require analysis to verify their adequacy for their new application. Cutting to shorter spans is also possible.
Architectural Millwork	Reusable	Decorative millwork is routinely removed prior to demolition and can be a valuable commodity, especially if it is not excessively painted, not damaged, and in a relatively large quantity of the same style.
Casework	Reusable	Cabinetry and countertops are routinely removed prior to demolition for reuse or resale. Residential cabinetry is generally more marketable than specialized commercial or institutional casework.
Division 07 Moisture & Thermal Protection		
Rigid Insulation Board	Reusable	Board insulation can be reused if not wet, damaged in-place, or damaged during removal. Loose-laid board should be recoverable. Mechanically fastened board insulation may be problematic. It may be impractical to attempt to remove fully adhered insulation board.
		Cellular plastic insulation diminishes in thermal resistance over time. Thermal resistance of used boards should be considered to be no greater than the "aged" R-value.
Fiberglass Batt or Blanket Insulation	Reusable	Fiberglass insulation can be reused if not wet, damaged in-place, or damaged during removal. Kraft or foil-faced batts lend themselves to removal and handling better than unfaced batts. Compression-fitted batts and lose-laid blankets can be removed with less damage than stapled or nailed batts.
		Because of fiberglass insulation's bulk, handling and storage of used insulation may be problematic. The opportunity to reuse insulation in

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		the same locale and shortly after removal suggest reuse may be feasible.
Asphalt Roofing	Recyclable on a limited basis	Bituminous roofing is accepted for recycling in some regions. Removing nails and other hardware is problematic.
Metal Roofing	Recyclable	Aluminum, terne, and steel shingles or panels are routinely removed from building debris and recycled as scrap.
		Standing seam roof panels can be recycled as scrap. Unseaming will damage the panels beyond reuse.
Tile Roofing	Reusable	Clay tiles, ceramic tiles, concrete tiles, and slate shingles are routinely removed prior to demolition for resale or reuse.
Vinyl Siding	Reusable	Vinyl siding can be reused if not damaged during removal. Full-length panels are more desirable. A relatively large quantity of the same style and color is more desirable.
Metal Siding	Reusable	Steel and aluminum horizontal siding can be reused if not damaged during removal. Full-length panels are more desirable. A relatively large quantity of the same style and color is more desirable.
		Preformed steel siding panels can be reused if not damaged during removal.
	Recyclable	Aluminum and steel siding materials can be recycled as scrap.
Flashing & Sheet Metal	Recyclable	Galvanized and coated steel, stainless steel, and aluminum flashing can be recycled as scrap. Copper flashing is a valuable recycle commodity.
Division 08 Doors & Windows		
Metal Doors & Frames	Reusable	Metal doors can be removed and reused. Keeping the frame with the door is also preferred, if the frame can be removed without damage. Providing hardware, especially keys, will improve

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		marketability.
		Residential doors, or doors of common residential dimensions, are generally more marketable than specialized commercial or institutional doors.
	Recyclable	Metal doors and frames can be recycled as scrap if damaged beyond reuse, and if vision panels, insulation, and other nonmetallic materials can be easily removed.
Wood Doors	Reusable	Wood doors can be removed and reused. Keeping the frame with the door is also preferred, if the frame can be removed without damage. Providing hardware, especially keys, will improve marketability.
		Residential doors, or doors of common residential dimensions, are generally more marketable than specialized commercial or institutional doors.
		Wood panel doors may have a higher value as an architectural artifact, especially if a relatively large quantity of the same style doors is available.
Specialty Doors	Reusable	Various types of overhead doors can be reused if tracks, springs, coil mechanisms, and other hardware accompany the door. Dimensions suitable for residential or smaller sized commercial applications may be more marketable than large, specialty applications.
Metal Windows	Reusable	Steel and aluminum windows can be removed and reused if not damaged during use or by removal. Keeping screens and hardware is preferred.
	Recyclable	Steel and aluminum frames can be recycled as scrap if the glazing is removed.
Wood Windows	Reusable	Wood windows can be removed and reused if not damaged during use or by removal. Keeping screens and hardware is preferred.

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
		Single glazed, multilite double hung sashes are frequently sold as decorative or craft items and converted to other products.
Hardware	Reusable	Hardware that is not heavily coated with paint and is in good working condition is reusable. Keys should accompany lock sets.
	Recyclable	Metal building hardware that is no longer serviceable is recyclable as scrap. Brass is a valuable recycle commodity.
Division 09 Finishes		
Non-Load Bearing Wall Framing Systems	Reusable	Light gage metal studs and channels can be reused if not damaged during removal. Consideration must be given to the location and condition of holes for re-installation. Holes from drywall fasteners should not compromise reuse of framing members.
	Recyclable	Light gage metal studs and channels not suitable for reuse can be recycled as scrap.
Carpet	Reusable	Relatively clean and unworn carpet tiles can be removed for reuse.
		Carpeting can be cut down to utilize the nonworn areas.
	Recyclable on a limited basis	Selected carpet mills accept used carpet for recycling if the manufacturer and materials can be identified. See PWTB 200-1-17, "Recycling Interior Finish Materials - Carpet and Ceiling Tiles."
Acoustical Ceilings	Reusable	Ceiling tiles can be removed and reused if they are reasonably clean and not damaged during use.
		Metal suspension systems are generally damaged beyond reuse when removed, but are recyclable as scrap.
	Recyclable on a limited basis	Select manufacturers accept used ceiling tiles for recycling if the manufacturer and material composition can be identified. See PWTB 200-1-17, "Recycling Interior Finish Materials - Carpet and Ceiling Tiles."

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
Wood Flooring	Reusable	Wood strip flooring is commonly removed for resale and reuse. Oak, maple, and long-leaf pine species are valuable commodities in the used building materials marketplace in most regions. Parquet flooring is generally installed with adhesive and, therefore, difficult to remove without damage.
Brick Flooring	Reusable	Brick flooring can be removed and reused.
Division 10 Specialties		
Visual display, compartments & cubicles, access flooring, fire protection specialties, prefabricated or operable partition systems, lockers & wardrobes, other architectural specialties.	Reusable	Virtually any architectural specialty can be reused if it is in reasonably good condition upon removal. Value and marketability depend on the type of item, condition, and quantity available in the same model or style. Residential-style items may be more marketable than commercial or institutional types of specialties.
Division 11 Equipment		
Any	Reusable	Virtually any type of built-in equipment and appliances can be reused if they serviceable and reasonably new (approximately 5 years). Residential appliances are marketable in most regions.
Division 12 Furnishings		
Any	Reusable	Any furniture not taken by the occupant can be excessed.
	Recyclable	Metal furniture that is no longer serviceable can be recycled as scrap.
Division 13 Special Construction		
Pre-engineered Metal Buildings	Reusable	Pre-engineered building systems are commonly sold, disassembled, and reassembled.

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
	Recyclable	Roof and wall panels damaged during removal can be recycled as scrap.
Division 15 Mechanical		
Piping systems	Reusable	Valves and controls can be removed and reused if still serviceable.
	Recyclable	Piping materials can be recycled as scrap. Copper and stainless steel piping are valuable recycle commodities.
Plumbing Fixtures & Equipment	Reusable	Plumbing fixtures can be removed and reused. Residential style fixtures may be more marketable than institutional or commercial styles.
		Water heaters, storage tanks, water fountains, and other plumbing equipment can be removed and reused if the items are reasonably new (approximately 5 years), and if the local water conditions are such that capacity is diminished by mineral deposits. Residential capacities may be more marketable than institutional or commercial, heavy duty equipment.
Heating Equipment	Reusable	Boilers can be removed and reused if still serviceable, not damaged by removal, and of recent enough manufacture that they do not contain asbestos. Residential capacities may be more marketable than institutional or commercial, heavy duty equipment.
		Furnaces can be removed and reused if still serviceable, reasonably new (approximately 5 years), and not damaged by removal. Residential capacities may be more marketable than institutional or commercial, heavy duty equipment.
		Gas or oil-fired space heaters can be removed and reused if still serviceable, reasonably new (approximately 5 years), and not damaged by removal.
	Recyclable	Heating equipment that is no longer serviceable can be recycled as scrap. Asbestos, if present, must be removed prior to recycling.

MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
Cooling Equipment	Reusable	Chillers, compressor/condenser units, evaporative coolers, and other cooling equipment can be removed and reused if still serviceable and not damaged by removal. Residential capacities may be more marketable than institutional or commercial, heavy duty equipment.
	Recyclable	Cooling equipment that is no longer serviceable can be recycled as scrap. R33 refrigerant must be purged and captured prior to recycling.
Radiators	Reusable	Cast iron free-standing radiators can be removed and reused.
		Fin-tube baseboard radiators can be removed and reused if not damaged through use or by removal.
	Recyclable	Radiators unsuitable for reuse can be recycled as scrap. Aluminum and copper from fin-tube radiators should be separated.
Ductwork	Recyclable	Galvanized steel and stainless steel ductwork can be recycled as scrap. Remove insulation.
Fans	Reusable	Ventilation fans can be removed and reused if still serviceable. Residential styles and capacities may be more marketable than institutional or commercial, heavy duty equipment.
Diffusers	Reusable	Grills and diffusers can be removed if not damaged by use or removal.
	Recyclable	Grills and diffusers no longer suitable for reuse can be recycled as scrap. Aluminum is a more valuable recycle commodity.
Division 16 Electrical		
Conductors & Cables	Recyclable	Copper conductor is recyclable. The feasibility of recycling copper conductor depends on the availability of recyclers or processors capable of stripping insulation, and the quantity of copper available in any one project.
Conduit	Recyclable	Metal conduit is recyclable as scrap.

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MATERIALS	REUSE / RECYCLE POTENTIAL	COMMENTS
Raceways, Cable Trays, Auxiliary Gutters	Recyclable	Metal distribution components are recyclable as scrap.
Distribution Components	Reusable	Circuit breaker panels, switchboards, control centers, and other distribution components can be removed and reused if they remain in serviceable condition, conform to current electrical codes, and are not damaged upon removal. Residential-capacity equipment may be more marketable.
	Recyclable	Metal panel boxes, cabinets, and other distribution components that are not suitable for reuse can be recycled as scrap.
Luminaires	Reusable	Light fixtures can be removed and reused if they remain in serviceable condition, conform to current electrical codes, and are not damaged upon removal. Verify that ballasts in fluorescent fixtures are explicitly labeled as "contains no PCB" or similar wording.
		Fluorescent fixtures with PCB-containing ballast should not be reused. Dispose of ballasts according to the prevailing hazardous waste regulations.
	Recyclable	Metal fixtures that are not suitable for reuse can be recycled as scrap. Remove lamps, ballasts, and plastic lenses and covers.
Fluorescent Lamps	Recyclable	Fluorescent tubes that are not suitable for reuse can be recycled.
Exterior Light Poles	Reusable	Exterior poles can be removed and reused.
	Recyclable	Steel and aluminum poles and bracket arms can be recycled as scrap. Aluminum is a valuable recycle commodity.
Communications Cable	Reusable	Coaxial cable can be reused if it remains in serviceable condition.

APPENDIX B

Model Specification for Building Deconstructing

The following section provides model specification language for deconstructing buildings. The applicability of specifying deconstruction as the required method of removing buildings is described in the Appendix A section on "Specifying Deconstruction."

The Uniform Federal Guide Specifications (UFGS) Section 02220 is assigned to Demolition. Therefore, Section 022XX is given this model specification. The specifier must assign the numerical classification and apply a format appropriate for the specific project and installation's practice. The specifier must also edit as appropriate for the installation's practice and accompanying documents.

Notes to the specifier are shown in *Italics*.

SECTION 022XX

DECONSTRUCTION

PART 1, GENERAL

A. WASTE DIVERSION GOALS FOR THE PROJECT.

1. The Government has established that deconstruction for this Project shall be performed in such a way as to recover for reuse the greatest amount of building materials possible, and to recycle materials that are not recoverable for reuse. Employ processes that ensure the prevention of damage to salvaged materials due to mishandling, improper storage, contamination, inadequate protection, pilferage, and other causes that can decrease their value.

The following assumes UFGS 01572, or a similar construction and demolition (C&D) waste management plan, is incorporated into this Contract Document. This reference cites the UFGS Section number. Assign the Section number appropriate for the specific project.

2. Perform deconstruction activities to recover, recycle, and dispose of building materials in accordance with Section 01572, Construction and Demolition Waste Management.

B. SCOPE. Provide all labor, supplies, materials, equipment, and other resources necessary to perform the following:

1. Remove, by deconstruction, salvage, and recycling the following buildings. Dispose of the remaining demolition debris.

List buildings to be deconstructed. Edit the following items to be included, as appropriate.

a. Remove all piers, floor slabs, and foundations to grade [and cap underground utilities above grade].

[b. Remove overhead electrical drops to the pole.]

Capping underground utilities and removing electrical drops may be activities that are performed better by PWBC personnel, especially if a nontraditional workforce will be performing the deconstruction.

c. Fill excavations and grade to drain.

d. Seed and mulch exposed soil.

e. [_____]

2. The following may remain in place.

Edit the following items to remain in place, as appropriate.

a. Walks, driveways, hardstands, culverts and drainage structures, and other paving nominally flush with the grade.

b. Foundations below grade.

c. Underground utilities.

d. [_____]

C. DRAWINGS AND SCHEDULES.

Provide the following, similar to a conventional demolition contract.

1. Installation map.

2. Site plan.
3. Utility plan.

D. QUALIFICATIONS.

1. Eligible firms.

a. Firms experienced and specializing in deconstructing buildings and formally organized to provide all required services.

b. Contractors, specialty contractors, salvage and recycling industries, charitable organizations, private individuals, nonprofit organizations such as schools, vocational programs, local housing agencies, or public arts programs that accept used building materials, or other interested parties who will collaborate specifically for this project.

2. Regardless of the composition of the Contractor and workforce, provide a Supervisor who shall be present at all times during deconstruction to direct the Work and who is thoroughly familiar with the deconstruction.

E. REGULATORY COMPLIANCE.

Regulatory compliance should be addressed in the Contract Clauses or Division 01, General (or comparable provisions). If not, the following is appropriate.

1. The Contractor shall be responsible for knowledge of and compliance with all applicable federal, state, and local regulations. The (*Installation's name*) Environmental Manual (or *comparable compliance guidance*) will be provided to the Contractor for reference and information.

If not referenced in whole elsewhere, reference should be made to 29 CFR 1926, Safety and Health Regulations for Construction, Section 62, Lead, and Subpart T, Demolition.

F. SUBMITTALS.

1. Prior to beginning the Work, submit to the (*Installation's Point of Contact*) an inventory of the types and approximate amounts of materials that the Contractor anticipates salvaging, recycling, and disposing in the landfill.

In order to develop an estimate for bidding or price proposal, the prospective Contractor(s) must survey the buildings and estimate the types and quantities of materials they intend to recover for reuse, resale, or recycle, and the amount of materials that must be landfilled. The following assumes this survey was performed.

2. Report to the (Installation's Point of Contact) any items that have been removed from buildings to be deconstructed since the Contractor's survey during the [pre-bid meeting], [job walkthrough], [building survey], [_____].

An audit of materials diverted from landfilling will be necessary to receive credit for solid waste diversion and for the installation's annual SWAR report.

3. Prior to the Final Inspection, submit to the (Installation's Point of Contact) an audit of all materials salvaged from the buildings for reuse, recycled materials, and debris deposited in a landfill. Indicate each type of material salvaged for reuse or recycled, quantity of each material, and the destination or outlet to which each material was sent. For each material landfilled, indicate material types, weights, and the facility to which the debris was disposed.

G. ASSIGNMENT OF WORK AREAS. Confine deconstruction, materials processing, and associated activities to the areas designated on the Site Plan. These areas include site access, the building sites, parking areas, storage areas, borrow and spoil locations, and haul routes. Use of other Government premises will be permitted only with the written consent of the (Installation's Point of Contact).

H. SITE ACCESS.

The Contractor's access to the site should be addressed in Division 01, General (or comparable provisions). If not, describe the appropriate point(s) of entry for Contractor personnel and equipment, and any constraints on the times at which the Contractor may and may not enter and leave the installation.

I. IDENTIFICATION.

The Contractor's requirements for personnel identification should be addressed in Division 01, General (or comparable provisions). If not, describe badge content, responsibilities for producing badges, notification of installation offices, and

provisions for returning badges when persons will no longer work onsite. Include requirements for notification and identification of site visitors.

J. MINIMUM AGE. Persons under 16 years of age are not permitted to perform hazardous work.

K. SAFETY. Develop and implement a Safety Management program throughout the performance of Work.

The Contractor's requirements for Safety Management should already be addressed in Division 01, General (or comparable provisions). If not, the following is appropriate.

1. Describe the following in the Safety Management plan.
 - a. Person assigned as the Contractor's Safety Manager, and his/her oversight and supervision responsibilities.
 - b. Hazards present during deconstruction, material processing operations, transportation, methods for communicating hazards, and methods to mitigate or protect against hazards.
 - c. Plans for safety training and ongoing safety awareness.
 - d. Documentation of safety management activities, including hazard analyses, inspection results, and accident reports.
 - e. Accident response plans.
2. No explicit acceptance of the Safety Management plan will be issued. The Government reserves the right to require the Contractor to make changes to the Safety Management plan.
3. Prior to beginning deconstruction work, meet with the (*Installation's Safety Office*) for a safety briefing. This may be conducted as part of the Preconstruction Conference.
4. If personnel are injured performing this Work to an extent requiring emergency medical attention, they may report to (*Installation Hospital or other appropriate emergency treatment facility*), or dial 911 for an ambulance.
5. Report all injuries requiring emergency medical attention to the Command Safety Office, (*building number, address, and phone number*) no later than the next workday of the injury.

L. TEMPORARY FACILITIES.

The Contractor's requirements for Temporary Facilities should already be addressed in Division 01, General (or comparable provisions). If not, the following is appropriate.

1. Provide and maintain an administrative field office or similar location where the Contractor's Project Manager and project documents shall be located at all times, in-person and by phone, while the Work is being performed. Provide the (*Installation's point of contact*) with the Contractor's phone number during mobilization.

2. Provide potable water and field-type sanitary facilities at each building site during deconstruction operations. (*Alternately, identify buildings where water and sanitary services will be available to the Contractor.*)

3. All buildings designated for deconstruction are available to the Contractor for use until they are deconstructed.

4. Washroom and toilet facilities in occupied buildings are not available to the Contractor.

5. Before final acceptance of the Work, remove all temporary utilities, facilities, and construction from (*Installation's name*) property.

M. PROTECTION OF LAND AREAS. Preserve land areas outside the limits of the Work in their present conditions. The Contractor shall be responsible for the repair and restoration of any property damaged during the performance of the Work.

N. PROTECTION OF TREES AND SHRUBS. Protect trees and shrubs not designated for removal.

1. Protect any root structures exposed during excavation activities. Cover exposed roots as quickly as possible with moist backfill, tamped, and watered with a mist spray.

2. Restore trees that are scarred or damaged as nearly as possible to its original condition. Coat scars as soon as possible with a tree wound dressing manufactured for that purpose.

3. Remove any tree that is damaged beyond saving, and replace it with a nursery-grown tree of the same species and size.

O. PROTECTION OF WATER RESOURCES. Control the disposal of fuels, oils, bitumens, calcium chloride, acids, or other harmful materials, both on and off the Government premises. Comply with all applicable federal, state, county, and municipal laws concerning pollution of rivers and streams.

Identify whether the Installation or the Contractor is responsible for obtaining a National Pollution Discharge Elimination System (NPDES) permit, if required.

P. WASTE DISPOSAL.

1. Dispose of all debris that cannot be reused or recycled as follows:

Identify appropriate Installation landfill facilities, similar to a conventional demolition contract.

2. Separate and collect [heavy steel], [light steel], [aluminum], [copper], [brass], and [_____] removed from the buildings during deconstruction.

If the Installation or DRMO will retain these materials, include provisions similar to a conventional demolition contract.

3. Separate and collect [glass bottles], [plastic containers], [newspaper], [aluminum cans], [steel cans], [corrugated cardboard], [_____], and other office- and household-types of recyclable materials generated on site during deconstruction activities.

Describe materials that are recyclable and where they are to be deposited, similar to a conventional demolition contract.

If the Contractor will be allowed to keep recyclable materials, include the following.

4. The Contractor may, at its option, keep recyclable materials. If the Contractor keeps recyclable materials, it shall provide its own receptacles, weigh each material individually by type, and report the weights to the (Installation's Point of Contact) before materials are removed from the jobsite.

5. Dispose of trash and other waste materials other than demolition as follows:

Describe provisions for trash disposal, similar to a conventional demolition contract.

6. The Contractor shall be responsible for the removal of any waste materials dumped by the Contractor or any Subcontractors in unauthorized areas and for remediation of the dump site.

Q. DUST CONTROL. Maintain all work areas free from excess dust to such reasonable degree as to avoid causing a hazard or nuisance. Sprinkling with water will be permitted to control dust.

R. EROSION CONTROL. Provide temporary erosion and sedimentation control measures for exposed loose soil in piles 24 in. or higher, which are subject to erosion from rainfall.

S. CLEANUP. Unless otherwise authorized by the Contracting Officer, obliterate all debris and signs of operations such as work areas, temporary structures, or stockpiles of materials prior to final acceptance of the Work. Grade, fill, and seed all disturbed areas.

The Contractor's requirements for Temporary Facilities should already be addressed in Division 01, General (or comparable provisions). If not, the following is appropriate.

T. QUALITY CONTROL (QC). Develop and maintain a QC system to ensure the Work is accomplished in compliance with the Agreement requirements.

1. Describe the following in the QC plan:

- a. The assigned Recipient's Quality Manager
- b. Plans and schedules for conducting inspections, both onsite and offsite
- c. Documentation of inspection results
- d. Procedures for identifying deficiencies and implementing corrective action
- e. Procedures for verifying compliance with the prevailing environmental regulations.

2. No explicit acceptance of the QC plan will be issued. The Contracting Officer reserves the right to require the

Contractor to make changes to the QC plan and operations to obtain the specified quality of Work.

3. Prior to closing out the Work, conduct a Final Inspection with the (*Installation's Point of Contact*) to verify that all deficiencies have been corrected.

4. Maintain current records of inspections, tests performed, and other QC activities throughout the performance of the Work. When requested, provide current documentation to the (*Installation's Point of Contact*).

Stop Work provisions should already be addressed in Division 01, General (or comparable provisions). If not, the following is appropriate.

The Contracting Officer will notify the Contractor of any noncompliance with the Contract requirements. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the Work until satisfactory corrective measures have been taken.

U. MEETINGS AND REVIEWS.

Meeting and review requirements should already be addressed in Division 01, General (or comparable provisions). If not, the following is appropriate.

Meet with the (*Installation's Point of Contact*) at the initiation of this project and weekly throughout completion of deconstruction operations. The purpose of these meetings is to review safety, logistical, and other site-related issues and requirements. These meetings will be scheduled at the mutual convenience of the Contractor and (*Installation's Point of Contact*), and may be cancelled by mutual consent.

V. REPORTS.

Document, by type and quantity, the materials salvaged for reuse or recycle, and those disposed as debris. Submit a report to the (*Installation's Point of Contact*) [every _____ days/weeks and] prior to final inspection.

PART 2, PRODUCTS. (*Not used*).

PART 3, EXECUTION.

A. TERMINATION OF UTILITIES. (*Installation's name*) will terminate all utilities to the buildings to be deconstructed. Utility types, locations, and points of termination are described by the Utility Plan. Coordinate with the (*Installation's Point of Contact*) before beginning work on each building to verify that each utility is inactive.

B. UTILITY SERVICE INTERRUPTIONS. If the Contractor intends to interrupt an active utility, submit to the (*Installation's Point of Contact*) written notification at least 5 working days in advance of each utility and communication service to be interrupted. No single outage shall exceed 4 hours unless approved by the (*Installation's Point of Contact*).

C. ROAD CLOSINGS. If the Contractor intends to close or obstruct a street or walk, submit to the (*Installation's Point of Contact*) written notification at least 48 hours in advance of each closure or obstruction. Closure or obstruction requires approval by the (*Installation's Point of Contact*).

D. PROTECTION OF UTILITY LINES. Protect existing buried and underground utility lines from damage. If utility lines are damaged, immediately report damages to the (*Installation's Point of Contact*). The Contractor is responsible for repairing such damages.

E. DISCREPANCIES. Notify the (*Installation's Point of Contact*) of any discrepancies between the utilities described by the Utility Plan and actual in-place conditions.

F. UNDETECTED UTILITIES. Immediately report encounters with any utilities that are not identified on the Utility Plan to the (*Installation's Point of Contact*). If the utility is live, stop work until the utility is terminated or otherwise determined by the (*Installation's Point of Contact*) to be safe to resume work.

G. DISPOSITION OF MATERIALS. All nonhazardous materials generated through the demolition work, unless otherwise specified, shall become the property of the Contractor.

H. FENCING. Cordon off each building site to restrict casual access when deconstruction operations are taking place.

1. Four-ft high orange plastic snow fencing is an acceptable method.

2. The Contractor may lock the buildings to be deconstructed to secure tools and materials. Provide the (*Installation's*

Point of Contact) with keys to all locks installed by the Contractor.

I. HAZARDOUS MATERIALS.

1. Survey each building to be demolished for fluorescent tubes, PCB-containing ballasts, and mercury (Hg)-containing switches and control devices. Report the contents of each building to the (*Installation's Point of Contact*) and identify the requirements for containers. (*Installation's name*) will provide and remove the containers.

2. Assume fluorescent light fixture ballasts are PCB-containing unless labeled by the manufacturer as "NO PCBs" or similar wording. At their option and expense, the Contractor may perform testing on suspected PCB-containing ballasts to determine PCB content.

3. Remove fluorescent tubes, PCB-containing ballasts, and mercury (Hg)-containing ampoules prior to beginning any demolition activities on a building. Either removing hazardous materials from all buildings at one time or from each building individually prior to its demolition is acceptable. Contact the (*Installation's Point of Contact*) when all hazardous materials are removed.

4. Deposit all hazardous materials directly into the appropriate containers upon their removal.

5. Do not leave hazardous materials unsecured on the jobsite without supervision. Lock or secure containers in a building at the end of the workday.

6. In the event that either PCBs or Hg is spilled, leaking, or suspected of spilling or leaking, immediately stop Work in that building and notify the (*Installation's Point of Contact*). Do not attempt to clean the leak or spill. (*Installation's name*) will clean the leak or spill and notify the Contractor when they may resume Work.

Edit the length of time hazardous materials may remain on the jobsite without being classified as an accumulation site according to the prevailing environmental regulations.

7. Hazardous materials shall not remain on the jobsite for more than 3 [_____] days. Notify the (*Installation's Point of Contact*) when the containers are ready to be removed.

J. ASBESTOS NOTICE.

1. (*Installation's name*) will identify and remove any asbestos-containing materials (ACM) discovered in any of the buildings. All such material is believed to have already been removed by (*Installation's name*) prior to the Contractor's possession of the buildings to be deconstructed. The Contractor is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the Contractor shall immediately stop work in that area and inform the (*Installation's Point of Contact*). Federal laws require asbestos removal operations in accordance with the following standards:

National Emission Standards for Hazardous Air Pollution
(40 CFR Part 61 as amended)

Standards on Respiratory Protection and Asbestos (29 CFR
1910.134 and 29 CFR 1910.1001).

U.S. Army Corps of Engineers General Safety Requirements
(EM 385-1-1).

2. If ACM is confirmed to exist in any building after the Contractor begins work, the Contractor will be provided written notice to stop work. (*Installation's name*) will promptly remove such material and give the Contractor written notice when to resume salvage and removal work.

3. The Contractor specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Contract and/or his/her associated personnel.

K. LEAD-BASED PAINT DISCLOSURE. The Contractor is hereby informed and does acknowledge that lead-based paint (LBP) was commonly used at the time these buildings were constructed and/or modified and may exist on painted surfaces of the buildings or within the buildings and/or their associated structures. In accordance with the Environmental Protection Agency and the Department of Housing and Urban Development's final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing" (61 FR 9064-9088), a federally approved lead hazard information

pamphlet and disclosure of any known LBP and/or LBP hazards will be provided to the Contractor upon request.

L. PERSONNEL PROTECTION. During deconstruction, continuously evaluate the condition of structures being removed and take immediate action to protect all personnel working in and around the buildings being removed. No structural elements will be allowed to remain in place without sufficient bracing, shoring, or lateral support to prevent collapse or failure while personnel perform work in the immediate area. Ensure no unstable elements are left unsupported. Support any member made unstable by cutting, removing supporting members, or other deconstruction operations.

M. WASTE CONTROL. Prevent building materials, debris, rubbish, and other waste materials from becoming a nuisance or hazard within designated work areas or adjacent areas.

1. Police the site for rubbish, trash, and recyclable materials daily, or more frequently if necessary to prevent their blowing and scattering within the work areas and adjacent areas.

2. Collect demolition debris daily and deposit in a receptacle. Remove demolition debris from each building's site no later than 14 [___] days after that building has been deconstructed.

3. Remove and transport debris in a manner to prevent spillage on streets or adjacent areas. Police any material falling from the vehicle at the time of the spillage.

4. Process and store salvaged building materials in a neat and orderly manner. Prevent damage and contamination of materials to be salvaged and recycled.

N. EXPLOSIVES. Use of explosives will not be permitted.

O. BURNING. Burning at the project site will not be permitted.

P. FILLING AND GRADING. Fill and grade all excavated areas at each building site. Meet adjacent elevation and slope to direct runoff to existing drainage patterns. If fill is required, it may be obtained from the borrow area designated on the (*Installation's name*) map.

1. Remove unsuitable materials from areas to be filled. Existing brick, stone, concrete, and other inert rubble may

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remain, if it will be covered by a minimum of 6-in. of soil. Burying additional rubble is not permitted. Remove sediment, debris, and other obstacles from culverts, swales, and existing drainage courses.

2. Do not place fill when the subsurface is frozen, excessively wet, extremely dry, or otherwise detrimental to proper grading and seeding.

3. Fill holes in lifts of no greater than 3 ft and compact each lift prior to the placement of the next lift.

4. Place fill material in successive horizontal uniformly spread layers of loose material not more than 12 in. deep and compact each layer prior to the placement of the next layer.

5. Place a minimum 6 in. of topsoil over excavated and filled areas to be seeded.

Q. SEEDING. Sow [Bermuda] [_____] grass on all exposed topsoil. Do not seed when drought, excessive moisture, or other adverse conditions will prevent germination. Uniformly spread hay or straw mulch over seeded areas on the same day as the seed is applied. Water seeded areas immediately within the workday on which the seed and mulch is spread. Provide a 1-year warranty on turf seeded by the Contractor or Subcontractor.

End of 022XX

APPENDIX C

EXAMPLE SOLICITATIONS

This appendix includes three example solicitations: soliciting bids for the sale of surplus buildings (Fort McCoy and Fort Campbell) and auctioning the recycle rights for surplus buildings (Fort Knox). Each document begins on the following pages:

- Fort McCoy: C-2
- Fort Knox: C-15
- Fort Campbell: C-21

Note that solicitation documents are revised over time. Installations considering either soliciting bids for buildings for sale or auctioning recycle rights are urged to contact project personnel and obtain the latest documents and further advice. Contacts are as follows:

- Fort McCoy: Building Demolition Program, 608/388-3156
- Fort Knox: Recycle Program Manager, 502/624-5027
- Fort Campbell: PWBC Solid Waste Manager, 270/798-9782

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INVITATION FOR BIDS/SALE CONTRACT
FOR THE SALE AND REMOVAL OF GOVERNMENT BUILDINGS
(And Other Attached Real Estate Fixtures)
FORT MCCOY, WISCONSIN

ISSUED BY:

DISTRICT ENGINEER INVITATION NO. DACA45-
OMAHA DISTRICT, CORPS OF ENGINEERS
C/O COMMANDER, FORT MCCOY
ATTN: AFRC-FM-SSP-F Dated: _____
2171 SOUTH 8TH AVENUE
FORT MCCOY, WISCONSIN 54656-5136

Sealed bids for the purchase and removal of any or all items described on the accompanying bid form will be received at the place designated below until the date and time specified below and at that time publicly opened. The purchase and removal are subject to the General and Specific Conditions contained herein.

Unless specifically listed and identified, this Invitation for Bids/Sale Contract does not include personal property except fixtures firmly attached to the buildings listed for sale.

SEALED BIDS WILL BE OPENED:

DATE: _____
TIME: 1:00 p.m., Local Time
LOCATION: Directorate of Support Services
Conference Room A
2171 South 8th Avenue
Fort McCoy, Wisconsin

The points of contact for this Invitation/Contract are as follows:

Fort McCoy Representatives:

- Mr. [NAME], 608-388-5862, FAX 608-388-3136
- Mr. [NAME], 608-388-3386, FAX 608-388-7575
- Ms [NAME], 608-388-3551, FAX 608-388-7687

Corps of Engineers Representative:

- Mrs. [NAME], 402-221-4387, FAX 402-221-7688

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The terms and conditions of sale and instructions to bidders are as follows:

GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. The bidder is invited, urged and cautioned to inspect the property prior to submitting a bid. The property offered for sale is now subject to inspection by prospective bidders. Arrangements for inspection of the properties offered for sale may be made with a Fort McCoy Representative identified on page 1. Inspection of the property without the knowledge and supervision of a Fort McCoy Representative is not authorized. Upon request, said Fort McCoy Representative will furnish such information as may be necessary with respect to the inspection of the property, terms, conditions, and instructions contained herein. The failure of any bidder to inspect or to be fully informed regarding the condition and location of all or any portion of the property, or negligence or mistake on the part of the bidder in preparing the bid, will not constitute grounds for any claim or demand for adjustment or withdrawal of the bid after opening. The description of the property is believed to be sufficiently specific for purposes of identification. Any error or omission in the description (including locations, when specified) shall not constitute any ground or reason for nonperformance of the contract or claim by the purchaser for any allowance, refund, or deduction from the amounts offered. The property is offered for sale "as is" and "where is." The Government does not make any guaranty or warranty, express or implied, with respect to the property or any installed equipment therein as to the quantity, quality, character or condition, size or kind; or that the property, including installed equipment, is usable for the purpose(s) for which intended.

2. All bids submitted shall be deemed to have been made with full knowledge of all the terms, conditions, and requirements contained herein and in the accompanying bid form.

3. The right is reserved, as the interests of the Government may require, to reject any and all bids and to waive any defect or informality in bids received, to withdraw any and all items from the sale and to accept or reject any items of any bid, unless such bid is qualified by specific limitation.

4. Sealed bids must be executed and submitted on the bid form accompanying this Invitation or on an exact copy thereof. Additional copies of the bid form may be obtained from either the Corps of Engineers Representative or the Fort McCoy Representatives identified on page 1.

5. A bid executed by an attorney or agent on behalf of the bidder must be accompanied by four authenticated copies of his Power of Attorney or other evidence of his authority to act on behalf of the bidder. If the bidder is a corporation, the CERTIFICATE OF CORPORATE BIDDER included in the accompanying bid form must be executed. If the bid is signed by the secretary of the corporation, the Certificate must be executed by some other officer of the corporation under the corporate seal. In lieu of the Certificate of Corporate Bidder, there may be attached to the bid copies of those records of the Corporation showing the official

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character and authority of the signing officer. Said copies must be duly certified to be true copies by the secretary or assistant secretary under the corporate seal.

6. The sale will be on an all cash basis. A separate deposit is required for each property that the bidder puts in a bid amount as an offer to purchase. The deposit will guarantee that the bidder will enter into a written contract if the bid is accepted. No bid will be considered unless it is accompanied by a deposit as follows:

(a) The full amount of the bid if the total bid is less than or equal to \$50.

(b) A minimum deposit of \$50 for a bid that amounts to more than \$50.

Deposits must be in the form of a check or money order payable to the "FAO USAED - OMAHA." Deposits of unsuccessful bidders will be returned, without interest, as promptly as possible after rejection. The deposit of the successful bidder will be retained by the Government and applied to the purchase price. The balance of the purchase price, less the amount of the deposit, if any, must be paid as provided by Conditions 17 and 18 hereof.

7. Bids must be submitted in a sealed envelope. The Invitation number, opening date, and time must be plainly printed in the lower left corner of the envelope. Illustrated below is a sample envelope:

Return Address of Bidder	STAMP
SEALED BID FOR SALE AND REMOVAL OF BUILDINGS AT FORT MCCOY, WISCONSIN	
INVITATION NO. DACA45-02-B-RE-0003 LINE ITEM B. _____	TO: DISTRICT ENGINEER OMAHA DISTRICT, CORPS OF ENGINEERS C/O COMMANDER, FORT MCCOY ATTN: AFRC-FM-SSP-FT 2171 SOUTH 8TH AVENUE FORT MCCOY, WI 54656-5136
TO BE OPENED: DATE: Wednesday, November 7, 2001 TIME: 1 P.M., LOCAL TIME	

Hand-delivered bids should be brought to [_____], Directorate of Support Services, in Building 2109 at Fort McCoy.

8. It is the duty of each bidder to see that his/her bid is delivered by the time and at the place prescribed in this Invitation. Any bid received after the prescribed date and time, or at a different location, will not be considered and will be rejected. Bids received prior to the time of opening will be securely kept, unopened. The person whose duty it is to open them will decide when the specified

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time has arrived, and no bid or modification of a bid or withdrawal of a bid received thereafter will be considered, except that those received prior to award but delayed in the mails by occurrences beyond the control of the bidder may be considered if written certification is furnished by authorized postal authorities to that effect. No responsibility will attach for the premature opening of a bid not properly addressed and identified. All modifications of a bid or withdrawal of a bid must be in writing. Electronic transmission (i.e., telefax) of bids will not be considered, but modifications or withdrawals by electronic transmission of bids already submitted will be considered, if received prior to the time set for opening bids.

9. At the time fixed for the opening of bids, their contents will be made public by announcement for the information of bidders and others properly interested who may be present either in person or by representative; provided, however, that any information submitted in support thereof, the disclosure of which might tend to subject the person submitting it to a competitive business disadvantage, will upon request be held in strict confidence by the Government.

10. All bids will remain open for acceptance or rejection by the Government for a period of up to 30 calendar days after the date of bid opening; provided that, after said calendar days have elapsed, any bidder not having received notice of rejection may consider his bid rejected, and if the Government desires to accept any bid after such period, the consent of the bidder thereto shall be obtained.

11. Notice of acceptance or rejection of bids, notice of authority to proceed with removal of the property, and any other notices hereunder shall be deemed to have been sufficiently given when telefaxed or mailed to the bidder or his duly authorized representative at the address indicated on the bid form. The date of issuance of any and all notices shall be the postmark or telefax date of the notice.

12. The contract will be awarded to that responsible bidder whose bid, conforming to the Invitation, will be most advantageous to the Government, price and other factors considered. A written award mailed (or otherwise furnished) to the successful bidder within the time for acceptance provided in the Invitation shall be deemed to result in a binding contract. Identical bids will be decided by drawing lots.

13. The purchaser will not remove any property until payment in full has been made and a fully executed copy of the sales contract is received from the District Engineer with authorization to proceed with removal. Upon payment of the full purchase price and receipt of the executed sales contract, the Government will issue the Notice to Proceed with removal of the property. Upon receipt of this Notice to Proceed, the purchaser shall assume title to said property and assume responsibility for its care, protection, and removal. The purchaser shall expeditiously remove the property from the site in a manner satisfactory to a Fort McCoy Representative at the purchaser's cost and expense in accordance with the required General and Specific conditions.

14. The purchaser shall complete the work within the time provided in the Specific Conditions.

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15. Extensions of time provided to complete the removal and restoration work shall only be granted if, in the opinion of a Fort McCoy Representative, unusual and unforeseeable circumstances justify such extensions. All requests for extensions of time are subject to the following procedures:

a. The purchaser must submit, in writing, a request for an extension of time to a Fort McCoy Representative who will forward said request to the District Engineer. This written request must include a justification for the extension and must be submitted in sufficient time to allow the District Engineer to act upon the request prior to the time originally specified herein for completion of removal.

b. Pending the approval or disapproval of the requested extension, the purchaser shall diligently proceed with completion of the removal of the building, including cleanup.

c. Any delay in completion of removal beyond the time originally specified in the Specific Conditions, as the same may be extended hereunder, shall not relieve the purchaser of his/her responsibilities upon default as set out in Condition 18 of this contract. All Specific and General Conditions will continue to apply throughout the extension period.

d. No extensions of time will be granted unless first approved in writing by the District Engineer, Omaha District, Corps of Engineers.

e. If an extension is granted for other than the convenience of the Government, the Purchaser will pay the Government additional consideration at the rate of \$5 per day for each calendar day the original specified completion day is extended. Payments for extensions due the Government will be made by check or money order payable to "FAO USAED - OMAHA" within 5 days of the postmark or telefax date of written approval from the District Engineer. Payments for extensions shall not be refunded under any circumstances.

16. In the event of revocation of a bid by the bidder after the bid opening but prior to acceptance, the bidder's deposit shall become the property of the United States. The rights and remedies of the Government provided in this clause shall not be exclusive, and nothing contained in this clause shall in any way diminish or be construed to waive any of the Government's other remedies provided by law or under this contract.

17. The Purchaser agrees to pay for property awarded to him in accordance with the prices quoted in his bid. Payment of the full purchase price, after applying the total bid deposit, must be made within 5 calendar days of the postmark or telefax date of written award. If the Purchaser fails to pay the balance of the purchase price as indicated above, or fails to otherwise comply with the terms of this Invitation/Contract, the Government may declare him in default.

18. In the event of default by a purchaser hereunder, all claims to and any title held by the purchaser in the property, or any portion of it remaining, will be forfeited and all payments made by the defaulting

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purchaser (including purchase price or guarantee/ deposits) shall be applied by the Government to any loss, cost, and expense in selling or otherwise disposing of such property in such manner, whether economic or not, as time limitations allow. The defaulting purchaser is liable for the full amount of damages sustained by the Government because of his default. This includes any difference between the amount specified in the bid and the amount for which the Government may sell the property, if the latter amount is less than the former. Such liability is not limited to the amount of the aforesaid payments.

19. All payments due under the terms of this Invitation/Contract must be paid on or before the date they are due in order to avoid the mandatory sanctions imposed by the Debt Collection Act of 1982 (31 U.S.C. Section 3717). This statute requires the imposition of an interest charge for the late payment of debts owed to the United States; an administrative charge to cover the costs of processing and handling delinquent debts; and the assessment of an additional penalty charge on any portion of a debt that is more than 90 days past due. The provisions of the statute will be implemented as follows:

a. The United States will impose an interest charge, the amount to be determined by law or regulation, on late payment of debts. Interest will accrue from the due date. An administrative charge to cover the cost of processing and handling each payment will also be imposed.

b. In addition to the charges set forth above, the United States will impose a penalty charge of six percent per annum on any payment, or portion thereof, more than 90 days past due. The penalty shall accrue from the date of delinquency and will continue to accrue until the debt is paid in full.

c. All payments received will be applied first to any accumulated interest, administrative and penalty charges, and then to the balance of any unpaid debt. Interest will not accrue on any administrative or late payment penalty charge.

20. The purchaser shall comply with instructions of the Fort McCoy Representative regarding methods to be used in the removal of the buildings or any portion thereof. No part of the removal work covered by this Invitation will be performed which is unsanitary, hazardous, or dangerous to the safety or health of persons engaged in the services of the purchaser. The purchaser further agrees to abide by all safety, security, traffic, and other regulations in effect at the premises, as well as all local, state, and federal laws applicable to the removal work required herein.

21. The Government shall not be responsible for the loss or damage to any equipment, machinery, or other property either hired, used, or owned by the purchaser. Upon completion of the work covered under this contract, said equipment, machinery, or other property shall be immediately removed from the site by the purchaser.

22. The purchaser shall assume responsibility and liability for all injuries to persons or damages to property, directly or indirectly due to, or arising from his operations conducted under this contract and

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the said purchaser agrees to indemnify and save harmless the United States against any and all claims of whatsoever kind and nature due to, or arising out of, this contract.

23. Any property of the United States damaged or destroyed by the purchaser shall be promptly repaired or replaced by the purchaser to the satisfaction of a Fort McCoy Representative or, in lieu of such repair or replacement, the purchaser shall, if so required by the District Engineer, pay to the United States an amount determined by the District Engineer to be sufficient to compensate for the loss sustained by the United States.

24. Except as otherwise provided in this Invitation, any dispute concerning a question of fact arising under this Invitation/Contract which is not disposed of by agreement, shall be decided by the District Engineer, who shall reduce his decision to writing and mail, or otherwise furnish, a written copy thereof to the bidder or purchaser. The decision of the District Engineer shall be final and conclusive, unless within 30 days from the date of receipt of such copy, the bidder or purchaser mails, or otherwise furnishes, to the District Engineer a written appeal addressed to the Secretary of the Army. The decision of the Secretary, or his duly authorized representative for the determination of such appeals, shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, so grossly erroneous as necessary to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this condition, the bidder or purchaser shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the successful bidder shall proceed diligently with the performance of the contract and in accordance with the District Engineer's decision. This condition does not preclude consideration of questions of law in connection with those decisions; provided that nothing in this condition shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

25. This Invitation/Contract, including the accompanying bid form, General and Specific Conditions, when accepted by the Government, shall constitute the contract of sale between the successful bidder and the Government. Such agreement shall constitute the whole contract, unless modified in writing and signed by both parties. No oral statements or representations made by, for, or ostensibly on behalf of either party shall be a part of such contract. Neither this contract, nor any interest therein, shall be transferred or assigned by the successful bidder without the prior written approval of the District Engineer.

26. No member of or delegate to the Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; however, this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

27. The purchaser warrants that he has not employed any person or agency to solicit or secure this contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this

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warranty shall give the Government the right to annul the contract without liability or at its option to recover from the purchaser the amount of such commission, percentage, brokerage, or contingent fee. In addition to the consideration herein set forth, this warranty shall not apply to commissions payable by the purchaser upon a contract secured or made through bona-fide established agencies maintained by the purchaser for purposes of doing business. "Bona-fide established commercial agencies" has been construed to include licensed real estate brokers engaged in the business generally.

28. Service Contract Act of 1965 (1968 Suppl). Except to the extent that an exemption, variation, or tolerance would apply pursuant to 29 CFR 4.6, if this were a contract in excess of \$2,500.00, the contractor and subcontractors herein shall pay all of his/her employees engaged in performing work on the contract not less than the minimum wage specified under Section 6(2)(2) of the Fair Labor Standards Act of 1938, as amended. However, in cases where Section 6(e)(2) of the Fair Labor Standards Act of 1928 is applicable, the rate specified therein will apply. All regulations and interpretations of the Service Contract Act of 1965 expressed in 29 CFR, Part 4, are hereby incorporated by reference in this contract.

SPECIAL NOTICES

INTERSTATE COMMERCE ACT APPLICABILITY: Attention is invited to the fact that the Interstate Commerce Act makes it unlawful for anyone other than those duly licensed under the act to transport this property in interstate commerce for hire. Anyone aiding or abetting in such violation is a principal in committing the offense (49 U.S.C. - 301-327 and 19 U.S.C. 2).

BIDDER ELIGIBILITY NOTICE: Department of the Army/Air Force employees (including immediate members of their families) whose duties include any functional or supervisory responsibility for the disposal of Government property under the control of the Army/Air Force are prohibited from bidding.

DATA REQUIRED BY PRIVACY ACT OF 1974: The personal information requested on the Invitation for Bids/Sale Contract for the sale of Government real property, as authorized by the Federal Property and Administrative Services Act of 1949, as amended, is needed and shall be used to contact the bidders and, in the case of the successful bidder, to prepare the contract. The information contained in the contract shall be made available to the public upon request.

SPECIFIC TERMS AND CONDITIONS

1. The property may be inspected between the hours of 8 a.m. and 3:30 p.m., through date of bid opening, Saturdays, Sundays, and Federal holidays excluded. A Fort McCoy Representative must be contacted to inspect the property.

2. Removal of the buildings must be accomplished during daylight hours, unless specifically granted otherwise.
3. A period of 180 days will be allowed for complete salvage and removal of materials and removal of debris to the satisfaction of a Fort McCoy Representative. The time period will begin on the date the Purchaser receives written Notice to Proceed. Removal shall start immediately and shall not stop until complete, excluding any authorized delay documented by written notice from the District Engineer in accordance with the General Conditions of this Invitation. Any authorized delay requested by the Government shall not be counted toward the 180-day completion period. If all work is not completed within the 180-day period, and in accordance with the General and Specific Conditions, the Purchaser will immediately forfeit all right, title, and interest otherwise acquired.
4. ASBESTOS NOTICE: Fort McCoy will remove any asbestos discovered in the building. All such material is believed to have already been removed by Fort McCoy. The Bidder is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the Purchaser will immediately inform the Fort McCoy Representative. Federal laws require asbestos removal operations in accordance with the following standards:
 - a. National Emission Standards for Hazardous Air Pollution (40 CFR 61, Part 8820, 6 April 1973 and subsequent amendments).
 - b. Standards on Respiratory Protection and Asbestos (29 CFR 1910.134 and 29 CFR 1910.1001).
 - c. U.S. Army Corps of Engineers General Safety Requirements (EM 385-1-1).
5. If asbestos is confirmed to exist in the building after the Purchaser receives written Notice to Proceed, the purchaser will be provided written notice to stop work. Fort McCoy will promptly remove such material and give the Purchaser written notice when to resume salvage and removal work.
6. The bidder specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Purchaser and/or his/her associated personnel.
7. The building will be removed to the concrete floor and foundation including the interior structures and fixtures. Burning of debris and material will not be permitted. Fort McCoy will provide an onsite area or container for debris disposal.
8. Prior to commencement of removal of the structure or equipment, the Purchaser will schedule a safety briefing with the Fort McCoy Safety Office, Building 1678, telephone 608-388-3403, to determine the safety, security, and administrative regulations required to accomplish removal.

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9. The Purchaser shall take all reasonable precautions to protect the health and safety of workers and shall comply with all safety, traffic, health, security, fire, and other regulations required by the Installation Engineer.

10. The work site shall be appropriately cordoned off to restrict casual access. Children under age 16 will not be allowed within the cordoned area, and protective headgear (hard hats) will be worn within the cordoned area unless such wear is exempted by the Fort McCoy Representative.

11. The Purchaser will provide all labor, materials, and equipment required to complete removal work. Fort McCoy will be responsible for disconnecting all utilities to the building prior to start of removal of the structure or equipment and will provide temporary electric service at no cost to the Purchaser.

12. To bid on the removal of the building, the bid must be completed in its entirety; it must be signed, dated, and returned in a sealed envelope addressed as specified in paragraph 7 of the General Conditions.

ADDITIONAL INFORMATION: Information as to the provisions of this Invitation for Bids and any additional information shall be furnished upon request. Wire, telephone, or mail your request to the Fort McCoy Representative previously identified on the first page of this Invitation.

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SALE OF GOVERNMENT PROPERTY - BID AND AWARD
FOR THE SALE AND REMOVAL OF GOVERNMENT BUILDINGS
(And Other Attached Real Estate Fixtures)
FORT MCCOY, WISCONSIN

TO: DISTRICT ENGINEER
OMAHA DISTRICT, CORPS OF ENGINEERS
C/O COMMANDER, FORT MCCOY
ATTN: AFRC-FM-SSP-FT
2171 SOUTH 8TH AVENUE
FORT MCCOY, WISCONSIN 54656-5136

Enclosed is a check or money order, payable to the "FAO USAED - OMAHA", in the amount of \$_____ to cover the required deposit per property. Upon acceptance of this BID, the enclosed check will be used to pay for the property as specified in the Specific Terms and Conditions and General Conditions.

The bidder is (select and complete one of the following):

- (1) a corporation existing under the laws of the State of _____,
or
- (2) a partnership consisting of _____,
_____ ,
or
- (3) an individual doing business as _____.

<u>Building Number</u>	<u>Description</u>	<u>Dimensions</u>	<u>Amount of Bid</u>
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____
Building _____	_____	_____ SF	\$ _____

I (we) make this bid with full knowledge of all the conditions and requirements contained herein and agree to execute the contract in accordance with those conditions.

Name of Bidder: _____ / _____
(Type or Print) (Signature)

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Mailing Address (Type or Print): _____
(Street, City, State and ZIP Code)

Bidder's Social Security Number (if an individual) or Federal
Identification Number (if a corporation): _____

Bidder's Weekday Phone Number: _____ Date of Bid: _____
(Area Code)(Number)

ACCEPTANCE BY THE GOVERNMENT

Accepted by and on behalf of the United States of America, this
_____ day of _____, 20__, as to the purchase and removal
of Building(s) _____, Fort McCoy, Wisconsin.

TOTAL BID AMOUNT: \$ _____

BY: _____

[NAME]

Contract No. DACA45- _____

Chief, Real Estate Division
Omaha District, Corps of Engineers

CERTIFICATE OF CORPORATE BIDDER

I _____ certify that I am the _____ of the Corporation named as bidder herein; that _____, who signed this bid on behalf of the bidder, was then _____ of said corporation; that said bid was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

Signature of Person Authorized to Sign this Bid: _____

Signer's Name and Title (Type or Print): _____

AFFIX SEAL _____

**Contract Between [Fort Knox]
Installation Morale Welfare and Recreation Fund (IMWRF)
And**

Contract Number NAF-RRRP-01-____

SUBJECT: Sale of Scrap Material From Specified Building(s)/Apartment(s) To Be Demolished

ARTICLE I. The IMWRF

1. The IMWRF grants the Purchaser the right to:

a. Remove all recyclable/reusable materials that are part of building(s) _____ during the period of _____ through _____, **NO EXTENSIONS WILL BE GRANTED.**

b. Remove all nonstructural, non-load bearing, recyclable/reusable materials that are part of:

building _____ apartment(s) _____
building _____ apartment(s) _____
building _____ apartment(s) _____

2. The IMWRF will provide free use of the Fort Knox Commercial Scale to weigh material removed. **Weighing of all deconstruction material is required, even after minimum for deposit return is achieved.**

ARTICLE II. The Purchaser

1. The Purchaser agrees to purchase this lot of recyclable scrap material for \$ _____. The requirement for a performance deposit of \$ _____ is also a part of this agreement. **All material is sold as is, where is. Deposit will be returned if all safety and weight requirements are met.**

2. Materials for recycling:

a. From **BUILDINGS** being purchased **may include**: windows, doors, furnaces with heating ducts, water heaters with tanks and pipes, sinks, urinals, toilets, vinyl siding, sheet insulation, electrical wiring, circuit breaker boxes, light fixtures, aluminum soffit, hardwood floors, sheathing, and dimensional lumber.

b. From **APARTMENTS** **may include**: hardwood floors, windows, doors, central air and heat units, ducts, water heaters with tanks and pipes, plumbing fixtures, electrical

wiring and fixtures, circuit breaker boxes, and light fixtures. **No structural or load bearing materials may be removed.** If the purchaser buys all apartments in a single building, they may also remove the vinyl siding, attached sheds, gutters, stair rails, mail boxes, and electrical components.

3. Requests to move a building in its entirety will not be granted without first coordinating with the Fort Knox Recycle Program.
4. Purchaser must remove all materials by completion date. After that time the purchaser loses any right to any remaining material and it will be landfilled.

5. By contract ALL material removed must be weighed at 84 Bullion Blvd., Fort Knox, KY. This is necessary for documentation of landfill diversion statistics. Each vehicle must be weighed empty (at least once at the beginning of each auction cycle) and full every time material is taken from Fort Knox. Accountability by each apartment or building is required for weighing. Use of the scale facility for this purpose will be at no cost to the Purchaser. The scale is open 8:00 am to 5:30 pm, Monday through Saturday; closed on Federal Holidays and Sundays.

6. The Purchaser must remove a minimum of:
 - a. 50% (determined by weight) of the material from buildings
 - b. 3,500 pounds from each apartment.
7. The Purchaser **will not** be allowed to sell or stockpile materials on Fort Knox.
8. The Purchaser guarantees that all material is purchased for recycling/reuse purposes.
9. The Purchaser acknowledges that they are aware that said buildings **may** contain lead-based paint (LBP), asbestos, mercury etc, and assumes all responsibility for proper handling, disposition and disposal of this material from the time the building is released for recycling purposes by the Recycle Program Manager or his designee.

10. Army Regulation (AR) 200-1 requires environmental clearance for proposed demolition properties. Items which have been inspected and environmentally cleared include asbestos, LBP, mercury, PCBs, radioactive circuitry, hazardous materials, underground storage tanks, POL, and items of historical significance. Suspect materials of any nature must be reported immediately. Work in the suspected area must cease. Please contact the Recycle Center 624-5026, and the Environmental Management Division 624-3629/8811 for further assistance. It is important that any materials of a suspicious nature be addressed.

11. Discovery of any ammunition or explosive devices must be reported immediately to the Recycle Program. Such items must not be picked up or moved by Purchaser.

12. The Purchaser and any Subcontractors or their representative must follow OSHA rules at all times on the job site.

13. Anyone working at a job site must have an ID and parking pass issued by the Recycle Program. Only the Purchaser, appearing in person at the Recycle Program offices, can request that an additional worker be added to the list of individuals authorized to work on that particular job site.

14. If the Purchaser is a company, they and any Subcontractors must comply with all state requirements and provide proof of insurance before the start of any work. The Purchaser is responsible for ensuring the compliance of any Subcontractors. In the case of individuals being awarded a contract, a separate release must be signed releasing the United States, the U.S. Army, the IMWRF, and their officers and employees from any liability.

15. Building Deconstruction Safety Checklist.

The following safe work practices must be observed in connection with **BUILDING** deconstruction.

- No children (under 16 years of age) are allowed within the work site.
- Hard hats are required unless exempted by good cause (only exemptions due to religious beliefs, in which case, an employee/employer relationship must not exist).
- Deconstruction Plan – **Deconstruction of exterior walls and floor construction shall begin at the top of the structure and proceed downward after the roof has been removed. Each story of exterior wall and floor construction shall be removed and dropped before commencing removal of exterior walls and floors in the story next below.**
- Structural or load supporting members on any floor shall not be cut or removed until all stories above such floor have been demolished.
- Under no circumstances is the Purchaser to cut off utilities. Violation of this rule is grounds for **immediate shut down**.
- Hours of work: Purchasers are allowed to work anytime at the buildings. Work on buildings in any housing area is allowed **ONLY** 8:00 am-5:00 pm Monday through Saturday.
- Electric, gas, and water will remain shut off. Should utilities remain on, purchaser must ***immediately*** notify Recycle Center at 624-5026. No fires are allowed in the structure, to include cutting torches, without written permission from the Fort Knox Fire Marshall. (624-1876)

- [] Glass fragmentation hazards will be prevented; glass may not be dropped.
- [] Personnel are not allowed underneath where they could be struck while overhead removal is in progress.
- [] Purchaser is responsible for the legal removal of freon from air conditioning units removed from apartments or buildings.
- [] Whenever possible, floor openings should be covered or marked when not in use as a material drop.
- [] Work will not be conducted on roofs or tops of walls when weather conditions constitute a hazard, i.e., lightning, wind, ice, etc.
- [] Remove debris and other material before demolishing any floor arch.
- [] Purchaser assumes the risk of any damage to buildings/apartments purchased during the recycle period. (Recycle period begins at moment of purchase.)
- [] Two Story Building Fall Protection:
 - a. All personnel, when removing shingles on top of a two-story roof, must be tied off with a rope or use a commercial retractable lifeline. All other work that requires standing on the roof may be done with this system or the safety monitoring system described below.
 - b. Safety monitoring system: A competent person (responsible member of crew) must monitor the safety of all personnel during work on the roof. This person must be on the same roof and within sight, close enough to verbally communicate warning of a hazard or unsafe action. All work on the roof must be done with a minimum of two personnel. Mechanical equipment may not be used or stored on the roof.
- [] Any violations, vandalism, or unauthorized personnel entering the buildings must be reported to the office of the Provost Marshall at 624-2111/2112.
- [] If there is an employer/employee relationship between successful bidder and workers on the work site, all work is subject to OSHA regulations. Failure to follow OSHA rules may result in citation/fines and civil/criminal liability.
 - c. **In addition to the above rules, purchasers of recycle rights to APARTMENTS must comply with the following safety rules.**
- [] No structural or load supporting members will be removed under any conditions.

- [] The only exterior items that may be removed are windows, doors, and central air units.
- [] “DANGER OFF LIMITS SIGNS” will be provided by the Fort Knox Recycle Program. Surrounding work site must be maintained by the Purchaser.

16. REMOVAL OF FENCE

- [] All of the safety regulations pertaining to Buildings and Apartments (above) apply.
- [] **All** fence posts must be removed.
- [] Fence posts **must** be pulled from ground and hole backfilled with available dirt.
- [] The concrete fence post bases are **not** to be left in the ground nor left onsite.
- [] Disregard of the above points will result in the loss of performance deposit and being barred from future auctions.

17. APARTMENT BUILDING EXTERIOR PACKAGE

- [] All previously listed safety practices must be observed.
- [] Exterior package includes all **attached** sheds, vinyl siding, electrical power cable (excluding air conditioner circuiting), gutters and downspouts, porch/steps hand rails, outside light fixtures, wooden fences, and clothes line poles.
- [] Sheds may be removed complete (without disassembly). **Any** residue from removal **must** be placed tight against the building without obstructing [access to] any apartments.
- [] Removal of vinyl siding, guttering/downspouts and underlying insulation board must be coordinated with the apartment purchasers to avoid falling material hazards.

Violation of the above requirements may result in a permanent work stoppage and forfeiture of Purchaser's payment, forfeiture of performance deposit, and may preclude the awarding of future contracts to the Purchaser.

PWTB 200-1-23

10 March 2003

18. I, the Purchaser, in consideration of receiving permission and authority to remove recyclable materials from the Fort Knox military reservation, on behalf of myself, my heirs, and estate, do hereby release the United States, the U.S. Army, the Installation Morale Welfare Recreation Fund and all of their officers and employees from any liability or claim for personal injury or property damage which may arise from my participation in this recycling contract.

[NAME]
Recycle Program Manager
DCFA Business Activities Division

Purchasers Signature

Printed Name

Date

Street Address/city/state/zip code

(_____) _____
Area code Telephone Number

INVITATION FOR BIDS /SALE CONTRACT
FOR THE SALE AND REMOVAL OF GOVERNMENT BUILDINGS
(And Other Attached Real Estate Fixtures)
FORT CAMPBELL, KENTUCKY

ISSUED BY:

DISTRICT ENGINEER

INVITATION NO. #####-#####

LOUISVILLE DISTRICT, CORPS OF ENGINEERS

ATTN: AFZB-XXX

Dated: Month/Day/YR

MAILING ADDRESS

Sealed bids for the purchase and removal of any or all items described on the accompanying bid form will be received at the place designated below until the date and time specified below and at that time publicly opened. The purchase and removal are subject to the General and Specific Conditions contained herein.

Unless specifically listed and identified, this Invitation for Bids/Sale Contract does not include personal property except fixtures firmly attached to the buildings listed for sale.

SEALED BIDS WILL BE OPENED:

DATE: _____

TIME: 10:00 A.M, EST

LOCATION:

The points of contact for this Invitation/Contract are as follows:

Fort Campbell Representatives:

Contract Management Branch (270) 798-5514

Mailing address:

PWBC

Attn: Contract Management

Bldg. 865, 16th and Bastogne

Fort Campbell, KY 42223

Corps of Engineers Representative:

[NAME]

Mailing address:

The terms and conditions of sale and instructions to bidders are as follows:

GENERAL CONDITIONS AND INSTRUCTIONS TO BIDDERS

1. The bidder is invited, urged, and cautioned to inspect the property prior to submitting a bid. The property offered for sale is available for inspection as specified by paragraph 1 of the specific terms and conditions. Arrangements for inspection of the properties offered for sale must be made with a Fort Campbell Representative identified on page 1 above. Inspection of the property without the knowledge and supervision of a Fort Campbell Representative is not authorized. Upon written request, said Fort Campbell Representative will furnish such information as may be necessary with respect to the inspection of the property, terms, conditions, and instructions contained herein. The failure of any bidder to inspect or to be fully informed regarding the condition and location of all or any portion of the property, or negligence or mistake on the part of the bidder in preparing the bid, will not constitute grounds for any claim or demand for adjustment or withdrawal of the bid after opening. The description of the property is believed to be sufficiently specific for purposes of identification. Any error or omission in the description (including locations, when specified) shall not constitute any ground or reason for nonperformance of the contract or claim by the purchaser for any allowance, refund or deduction from the amounts offered. The property is offered for sale "as is" and "where is." The Government does not make any guaranty or warranty, express or implied, with respect to the property or any installed equipment therein as to the quantity, quality, character or condition, size or kind; or that the property, including installed equipment, is usable for the purpose(s) for which intended.

2. All bids submitted shall be deemed to have been made with full knowledge of all the terms, conditions, and requirements contained herein and in the accompanying bid form.

3. The right is reserved, as the interests of the Government may require, to reject any and all bids and to waive any defect or informality in bids received, to withdraw any and all items from the sale and to accept or reject any items of any bid, unless such bid is qualified by specific limitation.

4. Sealed bids must be executed and submitted on the bid form accompanying this Invitation or on an exact copy thereof. Additional copies of the bid form may be obtained from either the Corps of Engineers Representative or the Fort Campbell Representative identified on page 1 above.

5. A bid executed by an attorney or agent on behalf of the bidder must be accompanied by four authenticated copies of his Power of Attorney or other evidence of his authority to act on behalf of the bidder. If the bidder is a corporation, the CERTIFICATE OF CORPORATE BIDDER included in the accompanying bid form must be executed. If the bid is signed by the secretary of the corporation, the Certificate must be executed by some other officer of the corporation under the corporate seal. In lieu of the Certificate of Corporate Bidder, there may be attached to the bid copies of those records of the Corporation showing the official character and authority of the signing officer. Said

copies must be duly certified to be true copies by the secretary or assistant secretary under the corporate seal.

6. A separate deposit is required for each property for which the bidder puts in a bid as an offer to purchase. The deposit will guarantee that the bidder will enter into a written contract if the bid is accepted. No bid will be considered unless a deposit accompanies it as follows:

- a. The full amount of the bid if the total bid is less than or equal to \$50.
- b. A minimum deposit of \$50 for a bid that amounts to more than \$50.

Deposits must be in the form of a certified check or money order payable to the "Finance Accounting Officer, Louisville District." Deposits of unsuccessful bidders will be returned, without interest, as promptly as possible after rejection. The deposit of the successful bidder will be retained by the Government and applied to the purchase price. The balance of the purchase price less the amount of the deposit, if any, must be paid as provided by Conditions 17 and 18 hereof.

7. Bids must be submitted in a sealed envelope. The Invitation number, opening date, and time must be plainly printed in the lower left corner of the envelope. Illustrated below is a sample envelope:

Return Address of Bidder	STAMP
<u>SEALED BID FOR SALE AND REMOVAL OF BUILDINGS AT FORT CAMPBELL, KENTUCKY</u>	
INVITATION NO. ####-### TO: LINE ITEM B. _____	DISTRICT ENGINEER LOUISVILLE DISTRICT, COE ATTN: XXX-XX-X <i>Mailing Address</i>
TO BE OPENED: DATE: Day/Month/Year TIME: Hour, CDT	

8. It is the duty of each bidder to see that his/her bid is delivered by the time and at the place prescribed in this Invitation. Any bid received after the prescribed date and time, or at a different location, will not be considered and will be rejected. Bids received prior to the time of opening will be securely kept, unopened. The person whose duty it is to open them will decide when the specified time has arrived, and no bid or modification of a bid or withdrawal of a bid received thereafter will be considered, except that those received prior to award but delayed in the mails by occurrences beyond the control of the bidder may be considered if written certification is furnished by authorized postal authorities to that effect. No responsibility will attach for the premature opening of a bid not properly

addressed and identified. All modifications of a bid or withdrawal of a bid must be in writing. Electronic transmission of bids will not be considered, but modifications or withdrawals by electronic transmission for bids already submitted will be considered, if received prior to the time set for opening bids.

9. At the time fixed for the opening of bids, their contents will be made public by announcement for the information of bidders and others properly interested who may be present either in person or by representative; provided, however, that any information submitted in support thereof, the disclosure of which might tend to subject the person submitting it to a competitive business disadvantage, will, upon request, be held in strict confidence by the Government.

10. All bids will remain open for acceptance or rejection by the Government for a period of up to 30 calendar days after the date of opening of bids; provided, however, that after said calendar days have elapsed, any bidder not having received notice of rejection may consider his bid rejected, and if the Government desires to accept any bid after such period, the consent of the bidder thereto shall be obtained.

11. Notice of acceptance or rejection of bids, notice of authority to proceed with removal of the property and any other notices hereunder, shall be deemed to have been sufficiently given when telefaxed or mailed to the bidder or his duly authorized representative at the address indicated on the bid form. The date of issuance of any and all notices shall be the postmark or telefax date of the notice.

12. The contract will be awarded to that responsible bidder whose bid, conforming to the Invitation, will be most advantageous to the Government, price and other factors considered. A written award mailed (or otherwise furnished) to the successful bidder within the time for acceptance provided in the Invitation shall be deemed to result in a binding contract. Identical bids will be decided by drawing lots.

13. The purchaser will not remove any property until payment in full has been made and a fully executed copy of the sales contract is received from the District Engineer with authorization to proceed with removal. Upon payment of the full purchase price and receipt of the executed sales contract, the Government will issue the Notice to Proceed with removal of the property. Upon receipt of this Notice to Proceed, the purchaser shall assume title to said property and assume responsibility for its care, protection, and removal. The purchaser shall expeditiously remove the property from the site in a manner satisfactory to a Fort Campbell Representative at the purchaser's cost and expense in accordance with the required General and Specific conditions.

14. The purchaser shall complete the work within the time provided in the Specific Conditions.

15. Extensions of time provided to complete the removal and restoration work shall only be granted if, in the opinion of a Fort Campbell Representative, unusual and

unforeseeable circumstances justify such extensions. All requests for extensions of time are subject to the following procedures:

a. The purchaser must submit, in writing, a request for an extension of time to a Fort Campbell Representative who will forward said request to the District Engineer. This written request must include a justification for the extension and must be submitted in sufficient time to allow the District Engineer to act upon the request prior to the time originally specified herein for completion of removal.

b. Pending the approval or disapproval of the requested extension, the purchaser shall diligently proceed with completion of the removal of the building, including cleanup.

c. Any delay in completion of removal beyond the time originally specified in the Specific Conditions, as the same may be extended hereunder, shall not relieve the purchaser of his/her responsibilities upon default as set out in Condition 18 of this contract. All Specific and General Conditions will continue to apply throughout the extension period.

d. No extensions of time will be granted unless first approved in writing by the District Engineer, Louisville District, Corps of Engineers.

e. If an extension is granted for other than the convenience of the Government, the Purchaser will pay the Government additional consideration at the rate of \$5 per day for each calendar day the original specified completion day is extended. Payments for extensions due the Government will be made by check or money order payable to "Finance Accounting Officer, USACE, Louisville District" within 5 days of the postmark or telefax date of written approval from the District Engineer. Payments for extensions shall not be refunded under any circumstances.

16. In the event of revocation of a bid by the bidder, after the bid opening but prior to acceptance, the bidder's deposit shall become the property of the United States. The rights and remedies of the Government provided in this clause shall not be exclusive and nothing contained in this clause shall in any way diminish or be construed to waive any of the Government's other remedies provided by law or under this contract.

17. The Purchaser agrees to pay for property awarded to him in accordance with the prices quoted in his bid. Payment of the full purchase price, after applying the total bid deposit, must be made within 5 calendar days of the postmark or telefax date of written award. If the Purchaser fails to pay the balance of the purchase price as indicated above, or fails to otherwise comply with the terms of this Invitation/Contract, the Government may declare him in default.

18. In the event of default by a purchaser hereunder, all claims to and any title held by the purchaser in the property, or any portion of it remaining, will be forfeited and all payments made by the defaulting purchaser (including purchase price or guarantee/deposits) shall be applied by the Government to any loss, cost, and expense in

selling or otherwise disposing of such property in such manner, whether economic or not, as time limitations allow. The defaulting purchaser is liable for the full amount of damages sustained by the Government because of his default. This includes any difference between the amount specified in the bid and the amount for which the Government may sell the property, if the latter amount is less than the former. Such liability is not limited to the amount of the aforesaid payments.

19. All payments due under the terms of this Invitation/Contract must be paid on or before the date they are due in order to avoid the mandatory sanctions imposed by the Debt Collection Act of 1982 (31 U.S.C. Section 3717). This statute requires the imposition of an interest charge for the late payment of debts owed to the United States; an administrative charge to cover the costs of processing and handling delinquent debts; and the assessment of an additional penalty charge on any portion of a debt that is more than 90 days past due. The provisions of the statute will be implemented as follows:

a. The United States will impose an interest charge, the amount to be determined by law or regulation, on late payment of debts. Interest will accrue from the due date. An administrative charge to cover the cost of processing and handling each payment will also be imposed.

b. In addition to the charges set forth above, the United States will impose a penalty charge of six percent per annum on any payment, or portion thereof, more than 90 days past due. The penalty shall accrue from the date of delinquency and will continue to accrue until the debt is paid in full.

c. All payments received will be applied first to any accumulated interest, administrative and penalty charges, and then to the balance of any unpaid debt. Interest will not accrue on any administrative or late payment penalty charge.

20. The purchaser shall comply with instructions of the Fort Campbell Representative regarding methods to be used in the removal of the buildings or any portion thereof. No part of the removal work covered by this Invitation will be performed which is unsanitary, hazardous, or dangerous to the safety or health of persons engaged in the services of the purchaser. The purchaser further agrees to abide by all safety, security, traffic and other regulations in effect, at the premises, as well as all local, state, and federal laws applicable to the removal work required herein.

21. The Government shall not be responsible for the loss or damage to any equipment, machinery, or other property either hired, used, or owned by the purchaser. Upon completion of the work covered under this contract, said equipment, machinery or other property shall be immediately removed from the site by the purchaser.

22. The purchaser shall assume responsibility and liability for all injuries to persons or damages to property, directly or indirectly due to, or arising from his operations conducted under this contract and the said purchaser agrees to indemnify and save

harmless the United States against any and all claims of whatsoever kind and nature due to, or arising out of, this contract.

23. Any property of the United States damaged or destroyed by the purchaser shall be promptly repaired or replaced by the purchaser to the satisfaction of a Fort Campbell Representative or, in lieu of such repair or replacement the purchaser shall, if so required by the District Engineer, pay to the United States an amount determined by the District Engineer to be sufficient to compensate for the loss sustained by the United States.

24. Except as otherwise provided in this Invitation, any dispute concerning a question of fact arising under this Invitation/Contract which is not disposed of by agreement, shall be decided by the District Engineer, who shall reduce his decision to writing and mail, or otherwise furnish, a written copy thereof to the bidder or purchaser. The decision of the District Engineer shall be final and conclusive, unless within 30 days from the date of receipt of such copy, the bidder or purchaser mails, or otherwise furnishes, to the District Engineer a written appeal addressed to the Secretary of the Army. The decision of the Secretary, or his duly authorized representative for the determination of such appeals, shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, so grossly erroneous as necessary to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this condition, the bidder or purchaser shall be afforded an opportunity to be heard and to offer evidence in support of his appeal. Pending final decision of a dispute hereunder, the successful bidder shall proceed diligently with the performance of the contract and in accordance with the District Engineer's decision. This condition does not preclude consideration of questions of law in connection with those decisions; provided that nothing in this condition shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

25. This Invitation/Contract, including the accompanying bid form, General and Specific Conditions, when accepted by the Government, shall constitute the contract of sale between the successful bidder and the Government. Such agreement shall constitute the whole contract, unless modified in writing and signed by both parties. No oral statements or representations made by, for, or ostensibly on behalf of either party shall be a part of such contract. Neither this contract, nor any interest therein, shall be transferred or assigned by the successful bidder without the prior written approval of the District Engineer.

26. No member of or delegate to the Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; however, this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

27. The purchaser warrants that he has not employed any person or agency to solicit or secure this contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Government the right to annul the contract without liability or at its option to recover from the purchaser the amount of such

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commission, percentage, brokerage, or contingent fee. In addition to the consideration herein set forth, this warranty shall not apply to commissions payable by the purchaser upon a contract secured or made through bona-fide established agencies maintained by the purchaser for purposes of doing business. "Bona-fide established commercial agencies" has been construed to include licensed real estate brokers engaged in the business generally.

28. Service Contract Act of 1965 (1968 Suppl). Except to the extent that an exemption, variation, or tolerance would apply pursuant to 29 CFR 4.6, if this were a contract in excess of \$2,500.00, the contractor and subcontractors herein shall pay all of his/her employees engaged in performing work on the contract not less than the minimum wage specified under Section 6(2)(2) of the Fair Labor Standards Act of 1938, as amended. However, in cases where Section 6(e)(2) of the Fair Labor Standards Act of 1928 is applicable. The rate specified therein will apply. All regulations and interpretations of the Service Contract Act of 1965 expressed in 29 CFR, Part 4, are hereby incorporated by reference in this contract.

SPECIAL NOTICES

INTERSTATE COMMERCE ACT APPLICABILITY: Attention is invited to the fact that the Interstate Commerce Act makes it unlawful for anyone other than those duly licensed under the act to transport this property in interstate commerce for hire. Anyone aiding or abetting in such violation is a principal in committing the offense (49 U.S.C. - 301-327 and 19 U.S.C. 2).

BIDDER ELIGIBILITY NOTICE: Department of the Army/Air Force employees (including immediate members of their families) whose duties include any functional or supervisory responsibility for the disposal of Government property under the control of the Army/Air Force are prohibited from bidding.

DATA REQUIRED BY THE PRIVACY ACT OF 1974: The personal information requested on the Invitation for Bids/Sale Contract for the sale of Government real property, as authorized by the Federal Property and Administrative Services Act of 1949, as amended, is needed and shall be used to contact the bidders and, in the case of the successful bidder, to prepare the contract. The information contained in the contract shall be made available to the public upon proper request.

SPECIFIC TERMS AND CONDITIONS

1. The property may be inspected at 9:30 a.m., [_____]. The Fort Campbell Representative must be contacted by 3:30 p.m. on [DATE] of your intent to attend the inspection.

2. Removal of the buildings must be accomplished during daylight hours, unless specifically granted otherwise.
3. A period of 90 days will be allowed for complete salvage and removal of materials and removal of debris to the satisfaction of a Fort Campbell Representative. The time period will begin on the date the Purchaser receives written Notice to Proceed. Removal shall start immediately and shall not stop until complete, excluding any authorized delay documented by written notice from the District Engineer in accordance with the General Conditions of this Invitation, Any authorized delay requested by the Government shall not be counted toward the 90-day completion period. If all work is not completed within the 90-day period, and in accordance with the General and Specific Conditions, the Purchaser will immediately forfeit all right, title, and interest otherwise acquired.
4. ASBESTOS NOTICE: Fort Campbell will remove any asbestos discovered in the building. All such material is believed to have already been removed by Fort Campbell. The Bidder is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the purchaser will immediately inform the Fort Campbell Representative. Federal laws require asbestos removal operations in accordance with the following standards:
 - a. National Emission Standards for Hazardous Air Pollution (40 CFR Part 61 as amended)
 - b. Standards on Respiratory Protection and Asbestos (29 CFR 1910.134 and 29 CFR 1910.1001).
 - c. U.S. Army Corps of Engineers General Safety Requirements (EM 385-1-1).
5. If asbestos is confirmed to exist in the building after the Purchaser receives written Notice to Proceed, the purchaser will be provided written notice to stop work. Fort Campbell will promptly remove such material and give the Purchaser written notice when to resume salvage and removal work.
6. The bidder specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Purchaser and/or his/her associated personnel.
7. LEAD-BASED PAINT DISCLOSURE. The bidder is hereby informed and does acknowledge that LBP was commonly used at the time this building was constructed and/or modified and may exist on painted surfaces of the building or within the building and/or its associated structures. In accordance with the Environmental Protection Agency and the Department of Housing and Urban Development's final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint

Hazards in Housing” (61 FR 9064-9088), a federally approved lead hazard information pamphlet and disclosure of any known LBP and/or lead-based paint hazards will be provided to a potential bidder upon request and to the purchaser upon contract award. The property may be inspected for LBP during time specified in paragraph 1 of the specific terms and conditions, or scheduled at a time after that date. Inspection must be scheduled with the Fort Campbell Representative.

8. The building will be removed to the concrete floor and foundation including the interior structures and fixtures. Burning of debris and material will not be permitted. Fort Campbell will provide an onsite area or container for debris disposal. The purchaser is required to segregate metal from waste. A metal recycling container will be provided Fort Campbell.

9. The Purchaser shall remove at least 50 percent, by weight, of the purchased property from the installation. The purchaser shall weigh all materials removed from the installation as specified by the Fort Campbell Representative. Scales located on the installation will be made available to the purchaser for this specific use at no cost to the Purchaser.

10. Prior to commencement of removal of the structure or equipment, the Purchaser will schedule a safety, fire, and environmental briefing with the Fort Campbell Safety Office, Building 2170, telephone 270-798-6789, to determine the safety, security, environmental, and administrative regulations required to accomplish removal.

11. The Purchaser shall take all reasonable precautions to protect the health and safety of workers and shall comply with all safety, traffic, health, security, fire, and other regulations required by the Installation Engineer.

12. The work site shall be appropriately cordoned off to restrict casual access. Children under age 16 will not be allowed within the cordoned area, and protective headgear (hard hats) will be worn within the cordoned area unless the Fort Campbell Representative exempts such wear.

13. The Purchaser will provide all labor, materials, and equipment required to complete removal work. Fort Campbell will be responsible for disconnecting all utilities to the building prior to start of removal of the structure or equipment and will provide temporary electric service at no cost to the Purchaser.

14. To bid on the removal of the building, the bid must be completed in its entirety; it must be signed, dated, and returned in a sealed envelope addressed as specified in paragraph 7 of the General Conditions.

ADDITIONAL INFORMATION: Questions or request for more information must be submitted in writing prior to the scheduled inspection date. Send written request to the Fort Campbell representative.

**SALE OF GOVERNMENT PROPERTY - BID AND AWARD
FOR THE SALE AND REMOVAL OF GOVERNMENT BUILDINGS
(And Other Attached Real Estate Fixtures)
FORT CAMPBELL, KENTUCKY**

**TO: DISTRICT ENGINEER
LOUISVILLE DISTRICT, CORPS OF ENGINEERS
C/O COMMANDER, FORT CAMPBELL
ATTN: AFZB-XX-X
Mailing Address
FORT CAMPBELL, KENTUCKY 42223-5130**

Enclosed is a certified check or money order, payable to the "Finance Accounting Officer, USACE, Louisville District," in the amount of \$_____ to cover the required deposit per property. Upon acceptance of this bid, the enclosed check will be used to pay for the property as specified in the Specific Terms and Conditions and General Conditions.

The bidder is (select and complete one of the following):

- (1) A corporation existing under the laws of the State of _____, or
- (2) A partnership consisting of _____, or
- (3) An individual doing business as _____.

<u>Building Number</u>	<u>Description</u>	<u>Dimensions (SF)</u>	<u>Amount of Bid</u>
Building _____	_____ Bldg.	_____ SF	\$ _____

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I (we) make this bid with full knowledge of all the conditions and requirements contained herein and agree to execute the contract in accordance with those conditions.

Name of Bidder:

_____/_____
(Type or Print) (Signature)

Mailing Address (Type or Print):

(Street, City, State, and ZIP Code)

Bidder's Phone Number: _____ Date of Bid: _____

ACCEPTANCE BY THE GOVERNMENT

Accepted by and on behalf of the United States of America, this _____ day of _____, 2001, as to the purchase and removal of Building(s) _____, Fort Campbell, Kentucky.

TOTAL BID AMOUNT: \$ _____ BY: _____

Contract No. XXXXX-XX-X- _____
Name
Chief, Real Estate Division
Louisville District, Corps of Engineers

CERTIFICATE OF CORPORATE BIDDER

I certify that I am the _____ of the Corporation named as bidder herein; that _____, who signed this bid on behalf of the bidder, was then _____ of said corporation; that said bid was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

Signature of Person Authorized to Sign this Bid:

Signer's Name and Title (Type or Print):

AFFIX SEAL _____

BUILDING DEMOLITION SAFETY CHECKLIST.

The following safe work practices must be observed in connection with building demolition.

1. Restrict access to the work site by use of engineer tape or rope to maintain a 15-20 ft buffer around the work area/building. In particular, access must be restricted below areas where overhead demolition is in progress.
2. Children under 16 years of age are not allowed to perform hazardous work.
3. Hard hats should be worn at all times and are required if you are working below an area where others are working (if prohibited by religion, this requirement can be exempted if overhead hazards are minimized or eliminated using risk management practices). Safety glasses or goggles, gloves, and hearing protection are also required when hazards dictate.
4. Demolition of buildings must be performed in a proper manner so as to prevent accidental collapse of the structure. A demolition plan should be developed prior to the start of the demolition. Structural or load-bearing members shall not be cut or removed until the overlaying structure has been removed. Demolition of exterior wall and floor construction should proceed downward after the roof has been removed. Each story of multi-story structures must be dismantled before commencing with removal of floors and walls in the story below.
5. Electric, gas, and water will be disconnected from the building prior to demolition activities. All utilities must remain shut off.
6. To prevent glass fragment hazards, glass materials will not be dropped or broken out.
7. If dropping debris through a floor hole, the area around where the material is dropped will be guarded. Floor openings should be covered or guarded with a railing when not in use as material drops.
8. Waste materials and rubbish shall be placed in appropriate containers.
9. Hand and power tools shall be inspected and determined to be in good condition before each use. Throwing tools or materials from one location to another or from one person to another, or dropping them to lower levels is not permitted.
10. Lumber should be stacked level, stable, and self-supporting. Lumber piles shall not exceed 6 ft in height. Reusable lumber shall have nails withdrawn, hammered in, or bent over flush with the wood before being stacked for storage.
11. All obstructions or projections into an access way shall be removed or conspicuously marked. Projections that are sharp or pointed shall be covered with protective material. Work areas and means of access shall be maintained free of equipment or material that could obstruct passage or cause a trip hazard.

12. Individuals working on top of a roof or along unguarded edges above 6 ft must be tied off to a fall protection system. This requirement is mandatory for all contractors and installation employees. Falling from elevation is one of the most significant hazards faced on demolition/deconstruction projects.

13. Work will be suspended on roofs or on tops of walls when weather conditions constitute a hazard (lightning, high winds, wet or icy conditions, etc).

14. Some material(s) located in the building(s) may contain hazardous substances such as asbestos and lead-based paint. Adequate precautions must be taken when removing this material(s). If unsure whether a type of material within a building contains these hazardous substances, check with the Fort Campbell Representative.

15. If an employer/employee relationship exists between a successful bidder and workers on the demolition/deconstruction site, all work is subject to OSHA regulation. Failure to follow OSHA regulations in this situation can result in fines and/or civil/criminal liability.

16. A welding permit must be obtained from the Fort Campbell Fire Department if welding is necessary, such as when cutting metal pipes.

17. If personnel are injured performing this demolition to an extent requiring emergency medical attention, they may report to Blanchfield Army Community Hospital Emergency Room, or dial 911 for an ambulance.

18. Contractor will report all injuries requiring emergency medical attention to the Command Safety Office, 956-2621, Bldg 2170, 13½ Street and Indiana no later than the next work day of injury.

Building Number of Structure To Be Demolished _____

Type of Building (Barracks, Mess Hall, etc) _____

I have been briefed on and understand the above safety procedures.

Name (Please Print)/Signature/Date

Director of Safety (Acting)

APPENDIX D

MODEL REQUEST FOR PROPOSAL FOR BUILDING REMOVAL

The following provides model Request for Proposal (RFP) language for removing buildings. The applicability of initiating a source selection "best-value" procurement to solicit building removal proposals, as opposed to specifying demolition or deconstruction, is described in Appendix A.

This appendix describes the contents of an RFP. It was modeled after Corps of Engineers and installation construction contract documents, including RFPs. The Installation's Contracting Office may typically compile the provisions included in this RFP as 00200 Instructions to Offerers, 00400 Proposal Forms, 00500 Contract Clauses, and 00800 Supplementary Clauses, in a different sequence and format. The Contracting Office should, therefore, edit and apply these provisions as appropriate for the installation's formats and practice.

The specifier must assign the section numbers and apply a format appropriate for the specific project and installation's practice. The specifier must also edit, as appropriate, for specific project requirements and references to accompanying documents.

Notes to the specifier are shown in *Italics*.

DIVISION 00, CONTRACT REQUIREMENTS

00005 PROJECT INFORMATION

1. REQUEST FOR PROPOSAL.

A. This document constitutes a Request for Proposal for:

Project Name: [Insert project description]
Location: [Insert installation name]

2. PROJECT DESCRIPTION.

A. Contract Scope:

Describe the numbers and types of buildings to be removed and other Work items included in the Scope of Work.

1) This project consists of removing [_____]
buildings. Work includes, [removing the buildings],
[removing aboveground utilities], [miscellaneous site
appurtenances], [restoring the site's grade to its existing
contours], and [_____]. A complete description of
the contract scope appears in 02220, Demolition / Building
Removal.

B. Project Objectives:

1) The Installation desires to remove the buildings in
the most economical and efficient means practical, and to
minimize adverse environmental impacts of demolition and
waste disposal.

2) Proposals are being solicited to encourage
innovative approaches to remove the buildings, reduce the
use of resources, reduce waste, and reduce the cost to the
Installation. In addition to demolition, acceptable
methods for removing the buildings may include but are not
limited to building relocation, deconstruction and salvage
for reuse, recycling, and other methods that can reduce
cost and adverse environmental effects.

C. Who May Submit:

1) [Insert installation name] intends to award one
contract for all work described in this RFP.

2) Proposals may be submitted by firms formally organized to provide all required services.

3) Proposals may also be submitted by licensed contractors, specialty contractors, salvage and recycling industries, charitable organizations, private individuals, nonprofit organizations such as schools, vocational programs, local housing agencies, or public arts programs that accept used building materials, or other interested parties who will collaborate specifically for this project.

4) For the purposes of this solicitation, no distinction is made between a formally organized entity and a project-specific association of multiple parties. Both are referred to as "proposer" before the award of a contract, and as "contractor" after the award.

D. Contract type: Single fixed-price contract.

E. Anticipated schedule:

RFP available:	[insert date]
Proposal submittal date:	[insert date]
Award date:	[insert date]
Substantial Completion:	[insert date]
Contract close-out:	[insert date]

3. SELECTION PROCESS

Include the major evaluation factors in the following paragraph in their relative order of importance.

A. Basis of Award:

1) A contract will be awarded to the proposer offering the best value to the Government. [Proposed methods to remove the buildings and manage waste] [proposer qualifications and capabilities], [project management approach], [schedule], [price], and [_____] will be considered in combination. Selection of a contractor will not be based on lowest price alone.

B. Summary of Proposal Requirements:

Include the major proposal requirements.

1) Proposals will consist of the following:

- a) Description of the technical approach for the buildings' removal.
- b) Statement of proposer qualifications and capabilities.
- c) Debris and waste management plan.
- d) Project management plan.
- e) Schedule for completing the Work.
- f) Price for performing the Work.
- g) [_____]

C. Summary of Evaluation Procedure:

1) [*Insert installation name*], with their engineering consultant, will evaluate proposals according to the criteria described in 00200, Instructions to Proposers. Proposals will be evaluated on their own merits and rated individually.

2) Proposal evaluation will be conducted by [*Insert installation name*], according to the procedures described in 00200, Instructions to Proposers. In summary, each proposal will be checked for general conformity to the requirements of this RFP. The proposer's qualifications, technical approach, and management plan will then be evaluated and rated. The proposed price, along with the qualifications/technical/management rating, will then be considered to determine the best value for the Government.

3) Selection may be made without further discussion. [*Insert installation name*] may also request clarifications and/or additional information from proposers. If discussions are held, Proposers will be given the opportunity to revise their proposals. See 00200, Instructions to Proposers.

4. PROJECT DOCUMENTS.

Include the Point of Contact for obtaining project documents.

A. Available from: [_____]

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If Proposal Security is required, edit to reference the appropriate clause.

5. PROPOSAL SECURITY.

A. Proposal security will be required as described in [00200], Instructions to Proposers.

End of Section 00005

00015 LIST OF DRAWINGS AND SCHEDULES

1. DRAWINGS AVAILABLE FROM THE OWNER

Include the following documents as appropriate for the specific project. If the installation will terminate and cap utilities, utility plans may not be necessary. Single line building plans should be sufficient to identify interior configurations in buildings. A narrative building description may also be useful.

A. Location Map:

B. Site Plans:

C. Building Plans:

D. Utility Plans:

- 1) Water Distribution
- 2) Sanitary Sewer Collection System
- 3) Steam Distribution System
- 4) Electrical Plan
- 5) Gas Distribution Plan

Include a building schedule listing the building number, floor area and number of floors, and construction type.

2. SCHEDULES AVAILABLE FROM THE GOVERNMENT

End of Section 00015

00200 INSTRUCTIONS TO PROPOSERS

1. PROJECT SCHEDULE

Advertisement:	[insert date]
RFP Available:	[insert date]
Pre-Proposal Meeting(s) / Site Visit(s):	[insert date]
Proposals Due:	[insert date]
Proposal Evaluation:	[insert date]
Award / Agreement:	[insert date]
Notice to Proceed:	[insert date]
Substantial Completion:	[insert date]
Contract Closeout:	[insert date]

2. REQUEST FOR PROPOSAL

A. The RFP document consists of:

- 1) Instructions to Proposers
- 2) The Proposal Form
- 3) The Agreement / Conditions of the Contract
- 4) The Agreement / Contract Form
- 5) Specifications
- 6) Description of Existing Conditions
- 7) Amendments

B. Amendments:

1) [*Insert installation's name*] reserves the right to modify this RFP prior to the proposal due date. Such modifications will be issued by Amendment to all RFP holders.

2) If Amendments are of such a nature as to require substantive changes in the scope of work or price proposed, the proposal due date may be postponed by such a time as, in the opinion of the Contracting Officer, will enable proposers to revise their proposals. In such case, the Amendment will include an announcement of the new proposal due date.

C. Proposal Opening:

1) Proposal evaluation will be conducted by [*insert installation's name*] personnel representing planning, engineering, environmental, and contracting disciplines.

2) Proposals will not be opened or evaluated publicly.

3) Proposal proceedings and results will be recorded and documented.

Describe the media through which contract award will be published.

4) The Installation will announce the award of a contract through [_____].

D. Discussions:

1) The Contracting Officer may request discussions with proposers to clarify proposals and/or obtain additional information. If discussions are held, proposers will be allowed to revise their proposals.

3. PROPOSALS

A. Submission, modification, revision, and withdrawal of proposals.

1) Submit [2] [___] copies of proposals to the Installation no later than 12:00 Central Standard Time, at [insert location].

2) On the first page or cover of the proposal, include the name, address, telephone and facsimile numbers, electronic address if available, and name and title of person authorized to negotiate on the proposer's behalf with the Installation in connection with this solicitation.

3) Enclose the Proposal Form in a sealed, opaque envelope, independent of the proposal narrative material. Sign proposal forms manually.

4) Submit proposals in sealed, opaque envelopes or packages. Bind or bundle each copy of the proposal independently.

5) Electronic commerce or facsimile [are] [are not] permitted.

6) Any proposal received at the designated location after the date and time specified may not be considered

unless there is acceptable evidence that late receipt was caused by mishandling, delay, or interruption of services on the part of the United States Postal Service or commercial delivery service used to deliver the proposal.

7) Proposers may submit modifications to their proposals or correct a mistake at any time before the solicitation closing date and time. Include a manually signed statement giving evidence of the modification's authenticity.

8) Proposals may be withdrawn any time before the solicitation closing date and time. Submit a written statement, manually signed, requesting withdrawal of the proposal.

B. Proposal expiration date. Proposals submitted in response to this solicitation are valid for [60] [____] days after the solicitation closing date and time.

C. Restriction on disclosure and use of data.

1) Proposers that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Installation except for evaluation purposes shall:

a) Mark the title page of the proposal with the following: "This proposal includes data that shall not be disclosed outside the Installation and shall not be duplicated, used, or disclosed in whole or in part for any purpose other than to evaluate this proposal. The data subject to this restriction are contained in sheets [*insert referenced sheets or pages*]"

b) Mark each sheet of data it wishes to restrict with the following: "Use of disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal."

2) Acceptance, Award, and/or Rejection:

a) The proposer proposes and agrees, if their proposal is accepted, to enter into an Agreement with the Government, in the form included in the RFP documents, to perform all Work specified or indicated in the RFP documents for the contract price, within the contract times

specified in their proposal, and in accordance with the terms and conditions of the contract documents.

b) The Contracting Officer intends to award a contract resulting from this solicitation to the responsible proposer whose proposal represents the best value to the Government after evaluation in accordance with the factors described in this solicitation.

c) The Contracting Officer reserves the right to reject any or all proposals if proposals are incomplete, do not comply with the requirements of this RFP, are determined to be unrealistic in price or any of the proposal's provisions, or if rejection would otherwise be in the best interest of the Installation.

d) The Contracting Officer reserves the right to waive informalities and minor irregularities in proposals received.

e) A written notice of acceptance of the proposal issued by the Contracting Officer shall result in the execution of a binding contract without further action by either party.

D. Arithmetic discrepancies.

1) The Contracting Officer will resolve arithmetic discrepancies found on the face of the proposal form as submitted by proposers. These include obviously misplaced decimal points, apparent errors in extensions of unit prices, and apparent errors in addition of line items. These correction procedures will not be used to resolve any ambiguity concerning which price proposal is the lowest.

E. Submit the following as the proposal.

- 1) The Proposal Form included in this RFP.
- 2) Certifications and Representations required by this RFP.
- 3) Identification of all parties participating in the proposal. List the proposer, subcontractors, material or salvage outlets, and other businesses, organizations, or agencies participating in the proposal, including nonprofit organizations. Indicate what responsibilities each party

will have in performing the Work. Indicate whether the proposer and any subcontractor or other participants have had previous relationships on demolition or building removal projects.

4) Proposer Qualifications and Experience.

a) Provide [three (3)] [_____] references documenting the proposer's experience and past performance with projects similar to the [*insert project name*]. The past performance data provided should be relative to the most recent applicable projects. For each referenced project, provide the project name, location, Owner, individual's name who can be contacted for project information, mailing address, phone number and, if applicable, e-mail address.

b) For each referenced project, indicate whether demolition or building removal was accomplished within the required schedule. If the required project schedule was not met, provide an explanation.

c) For each referenced project, indicate the contract amount or funds budgeted by the Owner for demolition or building removal. If the project was not completed within the established budget or contract amount, provide an explanation.

d) Describe any experience by the proposer, subcontractor, or proposal participant involving alternatives to demolition and landfilling debris. Such experience may include, but need not be limited to, building relocation, deconstruction, materials' salvage, recycling, or other methods of building removal or waste diversion.

e) Indicate whether any of the following has been assessed against the proposer or any subcontractor or participant in the proposal by an Owner within the last [3] [_____] years. Provide an explanation of each occurrence.

(1) Liquidated damages

(2) Claims for corrective action or non-performance of Work

(3) Lost time accidents

- (4) Workman's Compensation claims
- (5) Citations or fines by OSHA or States
- (6) Environmental violations
- (7) Disbarment.

5) Proposed Building Removal Methods.

a) Describe the activities and sequences proposed for removing the buildings. Describe the sequence in which the buildings will be removed.

b) Indicate which buildings, if any, will be removed and relocated.

c) Indicate which buildings, if any, will be deconstructed for salvageable materials.

d) Indicate how salvageable or recyclable materials will be separated from demolition debris.

e) Describe the method proposed for removing foundations.

f) Describe the methods for the disposal of demolition debris and hazardous materials. Identify the landfill sites proposed for this project.

6) Debris and Waste Management Plan.

a) Describe actions that will be taken to reduce the volume of demolition debris that will be disposed of in a landfill. Describe the following:

(1) Specific approaches proposed for salvage, reuse, and recycling of materials. Include areas of the site and equipment to be used for processing, sorting, and temporary storage of debris and materials. Indicate whether covered facilities will be required for processing or handling materials.

(2) Commercial salvage, reuse businesses, recycling, or C&D recycling businesses that will be

utilized for this project. Identify the materials and quantities that will be taken by each business.

(3) Noncommercial reuse programs such as nonprofit organizations, material exchange networks, housing agencies, charitable organizations, vocational education, individuals, and other programs that will be utilized for this project. Identify the materials and quantities that will be taken by such organizations.

(4) Materials and quantities that will not be for reuse or recycling, and proposed methods of disposal.

7) Project Management Plan

a) Describe the methods the proposer will take to ensure completion of the Work described in this RFP and the proposal. Include the following:

(1) Labor and equipment resources requirements.

(2) Project schedule.

(3) Safety plan. Include the following:

(a) The individual who will be responsible for safety management for any activities performed in connection with this project.

(b) Methods for hazard identification and communication.

(c) Required training and education, who is to receive training, and the source of training. Indicate if individuals who are not trained in construction trades will be present on the jobsite, and what training will be provided for them.

(d) Inspection plan for building removal activities, equipment, personal practices, and the jobsite.

(f) Record keeping and documentation.

(g) Accident response plan.

F. Proposal Process:

1) Proposals will be evaluated by personnel representing planning, engineering, environmental, and contracts disciplines.

2) Evaluation procedures are as follows:

a) Each proposal will be evaluated individually. Proposals will be evaluated according to the criteria described in this RFP and not directly compared to other proposals.

b) Proposals will be checked for completeness and general conformity with the provisions of this RFP.

c) Proposals will be evaluated for proposer qualifications, technical approach for the buildings' removal, debris and waste management plan, project management capabilities, and time for completing the Work. Each proposal will be rated for its qualities in each evaluation area.

d) Each proposal's price will be evaluated.

e) A cost / quality trade-off evaluation will be performed to determine the overall best value for the Government. Price and other qualities will be considered together. Selection will not be based solely on lowest proposed price.

3) The Government intends to evaluate proposals and award a contract without discussions with proposers. Therefore, each proposer's initial proposal should contain the proposer's best terms from a price and technical standpoint. The Installation reserves the right to conduct discussions if it determines discussions are necessary or beneficial.

a) The Installation reserves the right to limit discussions to proposers within a competitive range of the most highly rated proposals.

b) Discussions may involve clarification or request for additional information. Discussions will be confined to the proposal in question. Other proposals' contents will not be disclosed or discussed.

c) If discussions are held, proposers will be allowed to revise their proposals in either price or content.

d) The final selection judgment and authority resides with the Executive Director of the Installation.

4. SELECTION CRITERIA

A. The Installation will select a contractor based on the following criteria, in descending order of priority.

Edit or reorder criteria as appropriate for the specific project.

- 1) Building removal methods
- 2) Waste management plan
- 3) Proposer qualifications
- 4) Project management plan
- 5) Project schedule
- 6) Price

5. TERMS AND PROCEDURES

A. Copies of Documents:

1) The Contracting Officer will issue this RFP to contractors, subcontractors, salvage or recycle outlets, charitable organizations, and other parties interested in participating in this solicitation.

2) The Contracting Officer will maintain a record of parties [requesting this RFP] [to whom this RFP is issued], and will [make this list available upon request] [will publish this list].

3) The Contracting Officer makes copies of this RFP available only for the purpose of obtaining proposals for the [insert project name] and does not confer any license or grant for any other use.

B. Questions during Proposal Development Period:

Include technical and contracts office points of contact.

1) Direct all questions about the intent or contents of this RFP to:

[_____]

2) Interpretations or clarifications in response to questions received prior to the proposal due date may be issued by Addenda to all parties recorded as having received this RFP, if considered necessary by the Installation.

3) Questions received less than [5] [____] days prior to the proposal due date may not be answered.

4) Only formal written responses to questions issued by letter or addenda are binding. Oral and other interpretations or clarifications are not binding.

C. Pre-Proposal Meetings / Mandatory Site Visits:

1) A pre-proposal meeting will be held at [_____]. An agenda will be provided at the meeting.

2) A site tour will be conducted immediately following the preproposal meeting.

3) Proposers [are] [are not] required to examine the buildings and site prior to submitting a proposal.

4) Prospective proposers are encouraged to submit questions in writing to the Installation no later than [2] [____] days prior to the preproposal meeting.

5) Minutes of the preproposal meeting will be prepared and distributed to RFP holders as an addendum. Minutes will include summaries of questions, responses provided at the meeting, and clarifications or interpretations developed subsequent to the meeting in response to questions presented at the meeting.

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D. Availability of the Site for Work:

Describe the limits of the Work, and/or reference site boundaries on the Site Plan.

1) The buildings to be removed are in the area bounded by [_____].

Describe borrow and spoil locations, if required, and/or reference the Installation Map for their locations.

2) Borrow and spoil areas are indicated on the site plans.

Describe any location or building that is available for the Contractor to use for temporary materials storage or processing.

3) [_____] is available to the contractor for the purposes of temporarily stockpiling and processing salvaged materials.

E. Proposal Security:

1) Proposal security in the amount of [_____] percent of the proposal price [\$______] is required to accompany the proposal.

Reference the appropriate General Conditions or Contract Clauses of this RFP.

2) Proposal security may be in the form of a [certified cashier's check] [surety bond] [_____]. Surety bonds must be issued by a surety meeting the requirements of the [_____] clause of the General Conditions of the Contract.

3) The proposal security of the selected proposer will be retained until such proposer has executed the Agreement, furnished the required contract security, and met other conditions of the Notice to Proceed, whereupon the proposal security will be returned.

4) The proposal security of proposers whose proposals are not selected will be returned within [___] days after the Agreement with the selected proposer is executed.

5) If the selected proposer fails to execute the Agreement, that proposer shall forfeit its proposal security.

F. Receipt of Amendments:

1) Acknowledge receipt of Amendments by citing each Amendment on the Proposal Form.

2) Verbal or telephonic conversations are not binding as the formal acknowledgement of receipt.

3) Failure to acknowledge receipt of all Amendments may be cause for disqualification from this solicitation.

G. Execution of Agreement: The Installation will issue a Notice of Award to the selected proposer, accompanied by the required number of unsigned copies of the Agreement.

1) Sign and deliver the required number of copies of the Agreement and the required contract security within [___] days of the issue of the Notice of Award.

2) Within [___] days of receipt of the signed Agreement and contract security, the Installation shall deliver to the contractor one copy of the fully signed Agreement.

H. Performance Bond: A Performance Bond will be required of the contractor, as described in 00600, Bonds and Certificates.

I. Payment Bond: A Payment Bond will be required of the contractor, as described in 00600, Bonds and Certificates.

End of Section 00200

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00400 PROPOSAL FORM

Include SF1442 or other appropriate proposal form.

End of Section 00400

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00490 ADDENDA

List number and date of each addenda.

End of Section 00490

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00500 AGREEMENT AND CONDITIONS OF THE CONTRACT

Include the appropriate General Conditions or Contract Clauses for the project.

End of Section 00500

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00600 BONDS AND CERTIFICATES

Include the appropriate Performance and Payment Bond provisions and Certification requirements, if not included with the Contract Clauses.

End of Section 00600

00800 SUPPLEMENTARY CONDITIONS

Supplementary Conditions must be coordinated with the Agreement and General Conditions or Contract Conditions to prevent redundancy, conflict, or omission.

1. COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

A. Commence the Work under this contract within [10] [____] calendar days after the issuance of a Notice to Proceed.

B. Perform the Work to a state of sustentative completion no later than [____] calendar days after the Notice to Proceed, or the time shown on the contractor's proposal, whichever occurs first. Substantial completion is defined as [removal of all trees, bushes, and shrubs designated for removal], [removal of all above grade utilities], [termination and cover of underground utilities at grade], [removal of all buildings] [and foundations at grade], [rough grading], [substantially all finished grading], and [_____]. All final grading, punch list items, clean-up, demobilization, removal of fences and temporary facilities, and final sodding or seeding need not be completed.

C. Complete all Work and vacate the site no later than [____] days after receipt of the Notice to Proceed, or the time shown on the contractor's proposal, whichever occurs first.

D. Provide close out submittals no later than [____] days after receipt of the Notice to Proceed.

2. LIQUIDATED DAMAGES

Describe Liquidated Damages amounts and provisions if not already described in General Conditions or Contract Clauses.

A. If the contractor fails to complete the work within the time specified in the contract, including any extension which modifies the contract, the contractor shall pay to the Installation as liquidated damages the sum of [_____] per each calendar day of delay.

B. If the Contracting Officer terminates the contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the Work together with any increased costs occasioned the Installation in completing the Work.

3. UTILITIES

A. All utilities within the site boundaries are inactive. The location of water and electrical services are shown on the site utility plans.

Describe whether the Contractor is responsible for providing water, sanitary, and electrical services, or whether the installation will make utilities available to the Contractor.

B. [The contractor is responsible for providing all utilities necessary to perform the Work at their own expense] [Water, sanitary, and electrical utilities are available to the Contractor as indicated on the site plan].

C. The contractor may interrupt no utility services to make connections or for any other purpose without approval from the utility provider and the Contracting Officer.

D. Washrooms and toilets in adjacent buildings may not be used.

E. Before final acceptance of the Work by the Installation, remove all temporary connections, distribution lines, meters, and associated devices.

4. IDENTIFICATION OF EMPLOYEES. Furnish an identification badge/card to each employee prior to the employees working onsite, and require each employee engaged on the Work to display identification. Cancel the identification upon release of the employee.

5. CONTRACTOR-PREPARED SCHEDULE

A. Prepare a detailed bar chart identifying the activities, sequences, and start and finish dates involved in performing the Work. Provide this schedule to the

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Installation within [10] [___] calendar days after the Notice to Proceed has been issued.

B. At intervals of [___] [14] calendar days, submit a report identifying the activities or portions of activities performed during the reporting period.

1) Identify the total value of that Work as the basis for the contractor's invoice for payment.

2) Describe the Work scheduled and the Work actually completed. Indicate the progress along the critical path in terms of days ahead or days behind the schedule.

3) Describe in narrative any current or anticipated delays, impacts on the schedule, corrective actions taken or proposed, and other information relevant to maintaining progress of the Work.

4) Provide an updated schedule indicating the activities completed and schedule for the remainder of the Work.

6. WARRANTY

A. The contractor warrants, except as provided in paragraph F of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in design, material, or workmanship performed by the contractor or any subcontractor, supplier, or service at any tier.

B. This warranty shall continue for a period of 1 year from the date of final acceptance of the Work. If the Installation takes possession of any part of the Work before final acceptance, this warranty shall continue for a period of 1 year from the date the Installation takes acceptance.

C. The contractor, at their own expense, shall remedy any failure to conform to contract requirements, any defect in materials or workmanship, or any damage to public or private property inflicted in connection with the performance of this contract.

D. The Installation shall notify the contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. Following written notification by the Installation, the contractor shall respond to warranty service requirements within [5] [] working days and work continuously to completion or relief.

E. If the contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Installation shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the contractor's expense.

Reference the appropriate GENERAL Clauses or Contract Conditions incorporated into this RFP.

F. This warranty shall not limit the Installation's rights under the [_____] clause of this contract with respect to latent defects, gross mistakes, or fraud.

G. The contractor's performance bond will remain effective throughout the construction warranty period and warranty extensions.

7. PROJECT SIGN

If the installation's policy is to allow or permit a project sign, the following criteria are appropriate.

A. Furnish and erect a project sign to display the following:

- 1) Project title.
- 2) Installation name and logo.
- 3) Names of the contractor and each subcontractor and other partner or party to this contract.
- 4) Name and logo of any charitable organization or agency participating in this contract.

B. Plumb and support the sign to maintain proper position, and maintain the sign in good condition throughout the duration of the contract. Remove the sign at the completion of the work performed under the contract.

8. INTERFERENCE WITH TRAFFIC ON PUBLIC AND PRIVATE PROPERTY

A. Conduct work in such a manner as to cause as little interference as possible with private and public travel. Damage to roads other than normal wear and tear shall, at the contractor's expense, be repaired to the satisfaction of the authority having jurisdiction over the roadway.

B. Haul routes are available to the [*insert installation's name*] landfill, as indicated on the [*insert installation's name*] map.

C. Provide and maintain proper barricades or fences and take such other precautions as may be necessary to protect life, property, and structures. The contractor shall be liable for and hold the Government harmless from all damages occasioned in any way by their neglect, or that of their agents, employees, or workmen.

9. SALES AND USE TAX

Describe the Contractor's tax liability.

A. The Contractor is subject to [_____].

10. INSURANCE.

Describe the insurance requirements if not described in the General Clauses or Contract Conditions.

A. Supply a Certificate of Insurance for liability covering the Contractor and Installation within [10] [____] days after issuance of the Notice to Proceed. Insurance shall be effective for the time coverage of this contract. Minimum coverage shall be [_____].

11. TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

A. In order for the Installation to grant a time extension for unusually severe weather, the following conditions must be satisfied.

1) The weather experienced at the project site during the contract period must be found to be more severe

than the adverse weather anticipated for the project location during any given month based on National Oceanic and Atmospheric Administration (NOAA) or similar data.

2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

Reference the appropriate provisions of the General Clauses or Contract Conditions.

B. From the time the Notice to Proceed is issued, and continuing throughout the contract, record the occurrence of adverse weather and the resultant impact to the work scheduled. If the number of actual adverse weather days exceeds the anticipated number, notify the Installation within 1 working day after the Work resumes, indicating the occurrence of the delay and impact on the schedule. The Installation shall issue a modification in accordance with Article 12 CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIME of the General Conditions of the Contract.

12. FIRE PROTECTION. Comply with National Fire Protection Association (NFPA) 241, Building Construction and Demolition Operations.

13. AVAILABILITY OF SAFETY MANUALS AND DATA

A. Provide a current copy of applicable OSHA safety manuals and guidelines at the project site. Communicate to all employees where these documents are located and how they are to be used.

B. Provide a Material Safety Data Sheets (MSDS) at the project site for each hazardous or toxic material brought onto the site, present on the site, or removed from the site. Communicate to all employees where MSDS are located and how they are to be used.

14. CONSTRUCTION HAZARD COMMUNICATION. Comply with 29 CFR 1926.59 OSHA Hazard Communication Standard.

15. CONTRACT ORDER OF PRECEDENCE.

A. This contract constitutes and defines the entire agreement between the contractor and Installation. In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order.

1) The solicitation, which includes all elements of this Request for Proposal and its Amendments.

2) Contractor's proposal, including additional work or features exceeding the minimum requirements of the solicitation.

3) The Agreement, including all specifications, plans, studies and analyses, submittals, and as-built documents provided by the contractor and approved by the Installation.

4) Modifications to the Agreement.

B. Failure of the Installation to detect features of the contractor's proposal or any specifications, plans, studies and analyses, submittals, and as-built documents provided by the contractor that do not conform to the solicitation, does not relieve the contractor from their obligation to conform to all elements of the Agreement.

16. MEETINGS AND CONFERENCES. Hold review conferences at intervals not to exceed [7] [____] calendar days at the [Contractor's field office] [Contracting Officer's Representative's office].

17. REPORTS. Document, by type and quantity, the materials salvaged for reuse or recycled, and those disposed as debris. Submit a report to the (*Installation's Point of Contact*) [weekly and] [_____] and] prior to final inspection.

End of Section 00800

DIVISION 01, GENERAL REQUIREMENTS

01400 CONTRACTOR QUALITY CONTROL

Part 1, General (Not applicable)

Part 2, Products (Not applicable)

Part 3, Execution

1. GENERAL REQUIREMENTS.

Establish and maintain a quality control system consisting of plans, procedures, and organization necessary to accomplish the Work in compliance with the contract requirements. Include all building removal operations, both onsite and offsite.

2. QUALITY CONTROL PLAN.

A. Submit to the Installation, for their review, a Contractor Quality Control (CQC) plan within [10] [_____] calendar after receipt of the Notice to Proceed. Include, as a minimum, the following elements in the CQC plan.

1) Identification of a Quality Control Officer for the project, individuals who will be performing inspection and quality control tasks, and lines of authority among all subcontractors, services, organizations, and other entities performing the Work.

2) List of definable features of the Work, which consists of each separate and distinct task or activity. Key each definable feature of the Work to the building removal sequence.

3) Methods of control, inspection, verification, testing, and documentation that will be applied to each definable feature of the Work.

4) Submittal register, keyed to each submittal requirement of the specifications.

5) Procedures for tracking deficiencies from identification through corrective action.

6) Procedures for resolving disputes.

B. No explicit approval of the CQC Plan will be issued by the Contracting Officer. The Contracting Officer reserves the right to return the CQC Plan to the Contractor with comments, and to require revisions to the CQC Plan if necessary to obtain the specified quality of Work.

C. After commencement of the Work, notify the Installation of any proposed changes in the CQC plan. Proposed changes are subject to the Contracting Officer's acceptance.

3. CONTRACTOR QUALITY CONTROL

A. Conduct inspections, physical examination, required tests, and other verification activities on an ongoing basis until the completion of the particular feature of the Work. Describe the schedule, time, and/or frequency of inspections in the CQC Plan.

B. Record the results of each inspection, examination, laboratory test, or other verification activity performed. Identify any deficiencies detected, corrective action that will be taken, and the time in which deficiencies will be corrected.

4. QUALITY ASSURANCE.

A. Submit to the Contracting Officer's Representative, for their review, one copy of the report documenting the result of each inspection, examination, laboratory test, or other verification activity performed.

B. The Installation reserves the right to perform independent inspections, physical examinations, or tests. Upon request, provide duplicate samples of test specimens.

5. COMPLETION INSPECTION.

A. At the time of substantial completion of the Work, submit to the Installation a punch list of items that do not conform to the contract. Describe the nature of each

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deficiency, the corrective action that will be taken, and the time in which the deficiencies will be corrected.

B. Upon completion of the Work, the Installation will conduct a Pre-Final Inspection to verify that the Work is complete and that all punch list items have been resolved. Any remaining deficiencies shall be corrected within the required time to complete the Work, as proposed by the proposer and incorporated into the Contract.

C. The contractor's Quality Control Officer, with the Contracting Officer's Representative, shall perform a Final Acceptance Inspection. The Final Acceptance Inspection will be scheduled by the Installation based on the results of the Pre-Final Inspection and schedule for completing all punch list items.

End of 01400

01500 TEMPORARY FACILITIES AND CONTROLS

Part 1, General

1. REFERENCE

29 CFR 1926 Safety and Health Regulations for
Construction

2. PROTECTION AND MAINTENANCE OF TRAFFIC

A. Maintain and protect traffic on all affected roads throughout performance of the Work. Protect installation personnel and the public from damage to person and property.

B. Erect and maintain warning signs and temporary barricades to limit public access to the project site.

3. TEMPORARY PROJECT SAFETY FENCING.

A. Maintain the existing fence surrounding the project site through the performance of the Work.

4. CONTRACTOR'S TEMPORARY FACILITIES

A. Provide and maintain an administrative field office within the project site.

[The contractor may use an existing vacant building to be removed in lieu of a jobsite trailer if the building is made free from all hazards.]

B. Provide potable water at the project site.

C. Provide and maintain field-type sanitary facilities at the project site. Toilet facilities in adjacent buildings are not available to contractor personnel.

D. Provide and maintain telephone service on the project site.

E. Confine employee parking to within the site boundaries or areas so designated as available to the contractor. Prevent interference of traffic on the [*insert installation's name*] property by employee parking.

F. Confine storage and operation areas to the project site and areas so designated on the site plans.

G. The contractor is responsible for the security of its own equipment and facilities.

6. REMOVAL OF TEMPORARY FACILITIES

A. Upon completion of the Work, remove all temporary facilities.

B. Fill holes and excavations. Protect exposed soil with seeding or the appropriate erosion control method.

C. All temporary construction will become property of the contractor.

D. Restore the areas used for storage or material processing to their original condition, including topsoil and seeding if necessary.

Part 2, Products (NOT USED)

Part 3, Execution (NOT USED)

End of Section 01500

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01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

UFGS 01572, "Construction and Demolition Waste Management," is an appropriate set of requirements for inclusion in this RFP.

End of 01572

01560 ENVIRONMENTAL PROTECTION

Part 1, General

1. REFERENCES:

Include the appropriate regulatory references.

Part 2, Products (NOT USED)

Part 3, Execution

1. GENERAL.

A. Perform all work in such a manner as to minimize the pollution of air, water, or land and, within reasonable limits, control noise and the disposal of solid waste materials and other pollutants.

2. PROTECTION OF LAND AREAS.

A. Preserve the land outside the limits of the Work. Confine activities to the areas specifically assigned for the contractor's use in the site plans and specifications. No other areas of the [insert installation's name] property shall be used by the contractor without written consent of the Installation.

3. PROTECTION OF TREES AND SHRUBS

A. Do not deface, injure, destroy, cut, or remove trees or shrubs not previously designated for removal or that do not interfere with performance of the Work.

B. Do not fasten ropes, cables, or guys, or otherwise use trees for anchorage or support for conducting any building removal activities.

C. Prevent physical damage to trees. Provide boards, fences, poles or other means of temporary protection for trees that may possibly be defaced, bruised, injured, or otherwise damaged by the contractor's equipment or other operations

D. Prevent soil compaction around trees. Provide fences or other means of temporary protection where trees may possibly be subject to soil compaction by presence of construction equipment or repeated vehicular traffic. Locate fences around the tree's drip line wherever possible, but no closer than 5 feet to the tree's trunk.

E. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment or workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree pruning compound.

F. Restore as nearly as possible to its original condition any tree scarred or damaged by the contractor's equipment or operations. Coat scars as soon as possible with tree wound dressing. Within the Work area, remove trees that are designated to remain but have been damaged by the contractor beyond saving. Replace them with a nursery-grown tree of the same species.

4. PROTECTION OF WATER RESOURCES

A. Control the disposal of fuels, oils, bitumen, calcium chloride, acids or harmful materials both on and outside of the Work area. Implement measures to prevent chemicals, fuels oils, greases, bituminous materials, herbicides, and insecticides from entering public waters. Prevent water used in onsite material processing, concrete curing, demolition, concrete cleanup, and other waste waters from reentering stream.

B. Where required, prepare a storm water pollution prevention plan to identify potential discharges to storm water and to develop appropriate management practices to eliminate these discharges and to limit soil erosion.

5. BURNING. Burning will not be permitted.

6. DUST CONTROL. Maintain all excavations, stockpiles, access roads, waste areas, and all other work free from excess dust to a reasonable degree as to avoid causing a hazard or nuisance to the adjacent activities or the general public.

7. EROSION CONTROL

A. Prevent soil erosion to the maximum extent practical. Limit disturbance of the site and exposure of soil to those areas necessary to perform the Work. Protect disturbed areas as quickly as possible after the completion of activities in an area. Provide temporary means of preventing erosion to exposed soil on sloped surfaces.

B. Grade to control surface drainage to control erosion from cuts and fills within the project boundaries and from borrow and spoil areas. Provide silt fences, temporary diversions, sedimentation basins or traps, and similar measures to prevent soil from being carried off the project site by runoff.

C. Provide temporary control measures until permanent drainage facilities are complete and operative, and until exposed surfaces permanently stabilized by vegetation, mulch, rock cover, or other surface treatment.

End of Section 01560

DIVISION 02, SITEWORK

02220 DEMOLITION / BUILDING REMOVAL

Part 1, General

1. REFERENCES

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

29CFR 1926 Safety and Health Regulations for
Construction

EM 385-1-1 U.S. Army Corps of Engineers Safety
and Health Requirements Manual

2. DISPOSITION OF MATERIALS

A. Salvageable Materials:

1) The contractor is encouraged to salvage materials for reuse, resale, and recycling to the maximum extent possible. All revenues from salvaged materials shall accrue to the contractor. All savings in landfill fees resulting from waste diversion shall accrue to the contractor.

2) Store materials removed from the buildings for salvage or reuse within the areas designated on the site plan, or in buildings designated by the Installation. Materials may be sold to salvage outlets and the general public on site.

B. Historic items: Historic items and cultural artifacts shall remain the property of the Government. If any such items are encountered, remove and store them in a manner to prevent damage. Notify the Installation immediately upon their removal.

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C. Debris:

Describe requirements for disposing debris in the installation's landfill and offsite landfills, if appropriate.

Dispose of all materials not salvaged or recycled in [_____].

3. USE OF EXPLOSIVES

A. Use of explosives will not be permitted.

Part 2, Products (NOT APPLICABLE)

Part 3, Execution

1. DESCRIPTION OF WORK

A. Remove the following:

Edit the following to include all items within the scope of work.

- 1) Building numbers [*list building numbers*]
- 2) All foundations to [grade] [a level of ____ below finish grade].
- 3) Steam plant, including all boiler, piping, and mechanical equipment.
- 4) All overhead electrical utilities.
- 5) All water, sanitary, gas, and steam utilities to [grade] [a level of ____ below finish grade].
- 6) All other above ground ancillary structures and site appurtenances.

B. Cap water supply lines where disconnected at the buildings to prevent infiltration and contamination of potable water service.

Capping underground utilities and removing electrical drops may be activities that are performed better by PWBC personnel, especially if a nontraditional workforce will be performing the deconstruction.

C. Remove only those trees and shrubs that interfere with building removal equipment and activities.

D. Fill excavations and grade to drain.

E. Seed or sod disturbed areas of the site.

F. The following may remain in place:

Edit the following to include all items outside the scope of work.

1) Trees and shrubs that do not interfere with building or utility removal activities.

2) Streets, roads, hardstands, sidewalks, and other paving nominally at grade.

3) Building first floor slabs where the slab surface is nominally flush with the adjacent grade.

4) Foundations below grade.

5) Water, sanitary, gas, and steam utilities below grade.

6) Culverts and drainage structures.

2. HAZARDOUS MATERIALS

Describe the installation's provisions for identifying and disposing of Mercury (Hg)- and PCB-containing materials.

A. Thermostats and fluorescent tubes are likely to contain Mercury (Hg); fluorescent fixture ballasts are likely to contain PCBs. Remove and dispose of hazardous materials in accordance with [_____].

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3. LEAD-BASED PAINT DISCLOSURE. The Contractor is hereby informed and does acknowledge that LBP was commonly used at the time these buildings were constructed and/or modified and may exist on painted surfaces of the buildings or within the buildings and/or their associated structures. In accordance with the Environmental Protection Agency and the Department of Housing and Urban Development's final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing" (61 FR 9064-9088), a federally approved lead hazard information pamphlet and disclosure of any known LBP and/or LBP hazards will be provided to the Contractor upon request.

4. DUST CONTROL.

A. Control dust to prevent the creation of a nuisance in areas adjacent to the site. Use of water will not be permitted when it will result in the contamination of runoff, excessive runoff leaving the project site, safety hazard, or other objectionable conditions.

5. PROTECTION

A. Personnel:

1) During demolition, continuously evaluate the condition of the structures being removed and take immediate action to protect all personnel working in and around the building(s) being removed. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while personnel perform work in the immediate area.

2) Structural components that are designed and constructed to stand without lateral bracing may be allowed to remain standing without additional bracing, shoring, or lateral support until removed. Ensure no unstable elements are left unsupported. Place and secure bracing, shoring, or lateral support as required as a result of any cutting, removal, or demolition work.

B. Trees: Protect trees within the project site that may be damaged by building removal activities and equipment with a 6-ft high fence. Secure the fence a minimum of 5 ft

from the trunk of individual trees or follow the outer perimeter of branches for clusters of trees.

6. ASBESTOS CONTAINING MATERIALS

A. [*Insert installation's name*] will identify and remove any asbestos containing materials discovered in any of the buildings. All such material is believed to have already been removed by [*insert installation's name*] prior to the Contractor's possession of the buildings to be deconstructed. The Contractor is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the Contractor shall immediately stop work in that area and inform the (*Installation's Point of Contact*). Federal laws require asbestos removal operations in accordance with the following standards:

National Emission Standards for Hazardous Air Pollution (40 CFR Part 61 as amended).

Standards on Respiratory Protection and Asbestos (29 CFR 1910.134 and 29 CFR 1910.1001).

U.S. Army Corps of Engineers General Safety Requirements (EM 385-1-1).

B. If asbestos-containing material is confirmed to exist in any building after the Contractor begins work, the Contractor will be provided written notice to stop work. (*Installation's name*) will promptly remove such material and give the Contractor written notice when to resume salvage and removal work.

C. The Contractor specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Contractor and/or his/her associated personnel.

7. FILLING AND GRADING

A. Backfill all holes and excavations resulting from removing foundations and utilities. Fill holes in lifts of

no greater than 3 ft, and compact each lift prior to placement of the next lift.

B. Place a minimum of 8 in. of topsoil on areas disturbed by building and utility removal. The surface shall be free from debris and other obstacles that would hinder planting and mowing. Spread topsoil to be a uniform depth and free from surface irregularities. Topsoil shall not be placed when the subsurface is frozen, excessively wet, extremely dry, or otherwise detrimental to proper grading and seeding.

C. Remove sediment, debris, and other obstacles from culverts, swales, and existing drainage courses.

D. Grade to drain. Meet adjacent elevations and slope to direct water to existing drainage patterns.

8. SEEDING

A. Sow Bermuda grass on all exposed topsoil. Perform seeding operations only when beneficial results can be achieved. Do not seed when drought, excessive moisture, or other adverse conditions prevail.

1) Rework excessively compacted topsoil prior to seeding.

2) Uniformly spread hay or straw mulch over seeded areas at the rate of 2 tons per acre. Apply mulch on the same day as the seed is applied. Provide means of preventing erosion in swales or culverts where topsoil is exposed until the seeded turf is established.

3) Water seeded areas immediately within the workday on which the seed and mulch is spread. Avoid puddling and erosion. Do not drive water trucks on freshly seeded areas. Water to supplement rainfall for a period of [___] days after seeding has been completed.

B. Alternatively, hydroseed all exposed topsoil with Bermuda grass. Follow manufacturer's instructions regarding distribution, mulch content, and watering. Seed shall not remain in the hydroseed slurry more than 24 hours prior to application.

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9. CLEAN UP.

A. Remove all debris and rubbish upon completion of the Work. Remove and transport debris in a manner that prevents spillage on streets and adjacent areas.

End of Section 02220

01500 TEMPORARY FACILITIES AND CONTROLS

Part 1, General

1. REFERENCES

29 CFR 1926, Safety and Health Regulations for Construction

2. PROTECTION AND MAINTENANCE OF TRAFFIC

A. Maintain and protect traffic on all affected roads throughout performance of the Work. Protect installation personnel and the public from damage to person and property.

B. Erect and maintain warning signs and temporary barricades to limit public access to the project site.

3. TEMPORARY PROJECT SAFETY FENCING.

A. Maintain the existing fence surrounding the project site through the performance of the Work.

4. CONTRACTOR'S TEMPORARY FACILITIES

A. Provide and maintain an administrative field office within the project site.

[The contractor may use an existing vacant building to be removed in lieu of a jobsite trailer if the building is made free from all hazards.]

B. Provide potable water at the project site.

C. Provide and maintain field-type sanitary facilities at the project site. Toilet facilities in adjacent buildings are not available to contractor personnel.

D. Provide and maintain telephone service on the project site.

E. Confine employee parking to within the site boundaries or areas so designated as available to the contractor. Prevent interference of traffic on the [insert installation's name] property by employee parking.

F. Confine storage and operation areas to the project site and areas so designated on the site plans.

G. The contractor is responsible for the security of its own equipment and facilities.

6. REMOVAL OF TEMPORARY FACILITIES

A. Upon completion of the Work, remove all temporary facilities.

B. Fill holes and excavations. Protect exposed soil with seeding or the appropriate erosion control method.

C. All temporary construction will become property of the contractor.

D. Restore the areas used for storage or material processing to their original condition, including topsoil and seeding if necessary.

Part 2, Products (NOT USED)

Part 3, Execution (NOT USED)

End of Section 01500

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01572 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

UFGS 01572, "Construction and Demolition Waste Management," is an appropriate set of requirements for inclusion in this RFP.

End of 01572

01560 ENVIRONMENTAL PROTECTION

Part 1, General

1. REFERENCES:

Include the appropriate regulatory references.

Part 2, Products (NOT USED)

Part 3, Execution

1. GENERAL.

A. Perform all work in such a manner as to minimize the pollution of air, water, or land and, within reasonable limits, control noise and the disposal of solid waste materials and other pollutants.

2. PROTECTION OF LAND AREAS.

A. Preserve the land outside the limits of the Work. Confine activities to the areas specifically assigned for the contractor's use in the site plans and specifications. No other areas of the [insert installation's name] property shall be used by the contractor without written consent of the Installation.

3. PROTECTION OF TREES AND SHRUBS

A. Do not deface, injure, destroy, cut, or remove trees or shrubs not previously designated for removal or that do not interfere with performance of the Work.

B. Do not fasten ropes, cables, or guys, or otherwise use trees for anchorage or support for conducting any building removal activities.

C. Prevent physical damage to trees. Provide boards, fences, poles, or other means of temporary protection for trees that may possibly be defaced, bruised, injured, or otherwise damaged by the contractor's equipment or other operations.

D. Prevent soil compaction around trees. Provide fences or other means of temporary protection where trees may possibly be subject to soil compaction by presence of construction equipment or repeated vehicular traffic. Locate fences around the tree's drip line wherever possible, but no closer than 5 ft to the tree's trunk.

E. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment or workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree pruning compound.

F. Restore as nearly as possible to its original condition any tree scarred or damaged by the Contractor's equipment or operations. Coat scars as soon as possible with tree wound dressing. Within the Work area, remove trees that are designated to remain but have been damaged by the contractor beyond saving. Replace them with a nursery-grown tree of the same species.

4. PROTECTION OF WATER RESOURCES

A. Control the disposal of fuels, oils, bitumen, calcium chloride, acids, or harmful materials both on and outside of the Work area. Implement measures to prevent chemicals, fuels oils, greases, bituminous materials, herbicides, and insecticides from entering public waters. Prevent water used in onsite material processing, concrete curing, demolition, concrete cleanup, and other waste waters from reentering stream.

B. Where required, prepare a storm water pollution prevention plan to identify potential discharges to storm water and to develop appropriate management practices to eliminate these discharges and to limit soil erosion.

5. BURNING. Burning will not be permitted.

6. DUST CONTROL. Maintain all excavations, stockpiles, access roads, waste areas, and all other work free from excess dust to a reasonable degree so as to avoid causing a hazard or nuisance to the adjacent activities or the general public.

7. EROSION CONTROL

A. Prevent soil erosion to the maximum extent practical. Limit disturbance of the site and exposure of soil to those areas necessary to perform the Work. Protect disturbed areas as quickly as possible after the completion of activities in an area. Provide temporary means of preventing erosion to exposed soil on sloped surfaces.

B. Grade to control surface drainage to control erosion from cuts and fills within the project boundaries and from borrow and spoil areas. Provide silt fences, temporary diversions, sedimentation basins or traps, and similar measures to prevent soil from being carried off the project site by runoff.

C. Provide temporary control measures until permanent drainage facilities are complete and operative, and until exposed surfaces permanently stabilized by vegetation, mulch, rock cover, or other surface treatment.

End of Section 01560

DIVISION 02, SITEWORK

02220 DEMOLITION / BUILDING REMOVAL

Part 1, General

1. REFERENCES

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

29CFR 1926 Safety and Health Regulations for
Construction

EM 385-1-1 U.S. Army Corps of Engineers Safety
and Health Requirements Manual

2. DISPOSITION OF MATERIALS

A. Salvageable Materials:

1) The contractor is encouraged to salvage materials for reuse, resale, and recycling to the maximum extent possible. All revenues from salvaged materials shall accrue to the contractor. All savings in landfill fees resulting from waste diversion shall accrue to the contractor.

2) Store materials removed from the buildings for salvage or reuse within the areas designated on the site plan, or in buildings designated by the Installation. Materials may be sold to salvage outlets and the general public on site.

B. Historic items: Historic items and cultural artifacts shall remain the property of the Government. If any such items are encountered, remove and store them in a manner to prevent damage. Notify the Installation immediately upon their removal.

C. Debris:

Describe requirements for disposing debris in the installation's landfill and offsite landfills, if appropriate.

Dispose of all materials not salvaged or recycled in [_____].

3. USE OF EXPLOSIVES

A. Use of explosives will not be permitted.

Part 2, Products (NOT APPLICABLE)

Part 3, Execution

1. DESCRIPTION OF WORK

A. Remove the following:

Edit the following to include all items within the scope of work.

- 1) Building numbers [*list building numbers*]
- 2) All foundations to [grade] [a level of ____ below finish grade].
- 3) Steam plant, including all boiler, piping, and mechanical equipment.
- 4) All overhead electrical utilities.
- 5) All water, sanitary, gas, and steam utilities to [grade] [a level of ____ below finish grade].
- 6) All other above ground ancillary structures and site appurtenances.

B. Cap water supply lines where disconnected at the buildings to prevent infiltration and contamination of potable water service.

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Capping underground utilities and removing electrical drops may be activities that are performed better by PWBC personnel, especially if a nontraditional workforce will be performing the deconstruction.

C. Remove only those trees and shrubs that interfere with building removal equipment and activities.

D. Fill excavations and grade to drain.

E. Seed or sod disturbed areas of the site.

F. The following may remain in place:

Edit the following to include all items outside the scope of work.

1) Trees and shrubs that do not interfere with building or utility removal activities.

2) Streets, roads, hardstands, sidewalks, and other paving nominally at grade.

3) Building first floor slabs where the slab surface is nominally flush with the adjacent grade.

4) Foundations below grade.

5) Water, sanitary, gas, and steam utilities below grade.

6) Culverts and drainage structures.

2. HAZARDOUS MATERIALS

Describe the installation's provisions for identifying and disposing of Mercury (Hg)- and PCB-containing materials.

A. Thermostats and fluorescent tubes are likely to contain Mercury (Hg); fluorescent fixture ballasts are likely to contain PCBs. Remove and dispose of hazardous materials in accordance with [_____].

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3. LEAD-BASED PAINT DISCLOSURE. The Contractor is hereby informed and does acknowledge that LBP was commonly used at the time these buildings were constructed and/or modified and may exist on painted surfaces of the buildings or within the buildings and/or their associated structures. In accordance with the Environmental Protection Agency and the Department of Housing and Urban Development's final rule "Lead; Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Housing" (61 FR 9064-9088), a federally approved lead hazard information pamphlet and disclosure of any known LBP and/or LBP hazards will be provided to the Contractor upon request.

4. DUST CONTROL. Control dust to prevent the creation of a nuisance in areas adjacent to the site. Use of water will not be permitted when it will result in the contamination of runoff, excessive runoff leaving the project site, safety hazard, or other objectionable conditions.

5. PROTECTION

A. Personnel:

1) During demolition, continuously evaluate the condition of the structures being removed and take immediate action to protect all personnel working in and around the building(s) being removed. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while personnel perform work in the immediate area.

2) Structural components that are designed and constructed to stand without lateral bracing may be allowed to remain standing without additional bracing, shoring, or lateral support until removed. Ensure no unstable elements are left unsupported. Place and secure bracing, shoring, or lateral support as required as a result of any cutting, removal, or demolition work.

B. Trees: Protect trees within the project site that may be damaged by building removal activities and equipment with a 6-ft high fence. Secure the fence a minimum of 5 ft from the trunk of individual trees or follow the outer perimeter of branches for clusters of trees.

6. ASBESTOS-CONTAINING MATERIALS

A. [*Insert installation's name*] will identify and remove any asbestos-containing materials discovered in any of the buildings. All such material is believed to have already been removed by [*insert installation's name*] prior to the Contractor's possession of the buildings to be deconstructed. The Contractor is hereby informed and does acknowledge that friable asbestos was commonly used at the time this building was constructed and may exist within material or equipment to be removed. Exposure to airborne asbestos has been associated with a number of health problems. If asbestos is suspected or encountered, the Contractor shall immediately stop work in that area and inform the (*Installation's Point of Contact*). Federal laws require asbestos removal operations in accordance with the following standards:

National Emission Standards for Hazardous
Air Pollution (40 CFR Part 61 as amended)

Standards on Respiratory Protection and
Asbestos (29 CFR 1910.134 and 29 CFR
1910.1001)

U.S. Army Corps of Engineers General Safety
Requirements (EM 385-1-1)

B. If asbestos-containing material is confirmed to exist in any building after the Contractor begins work, the Contractor will be provided written notice to stop work. (*Installation's name*) will promptly remove such material and give the Contractor written notice when to resume salvage and removal work.

C. The Contractor specifically agrees to indemnify and hold harmless the Government from liability of any nature or kind arising from asbestos exposure to the Contractor and/or his/her associated personnel.

7. FILLING AND GRADING

A. Backfill all holes and excavations resulting from removing foundations and utilities. Fill holes in lifts of no greater than 3 ft and compact each lift prior to placement of the next lift.

B. Place a minimum of 8 in. of topsoil on areas disturbed by building and utility removal. The surface shall be free from debris and other obstacles that would hinder planting and mowing. Spread topsoil to be uniform depth and free from surface irregularities. Topsoil shall not be placed when the subsurface is frozen, excessively wet, extremely dry, or otherwise detrimental to proper grading and seeding.

C. Remove sediment, debris, and other obstacles from culverts, swales, and existing drainage courses.

D. Grade to drain. Meet adjacent elevations and slope to direct water to existing drainage patterns.

8. SEEDING

A. Sow Bermuda grass on all exposed topsoil. Perform seeding operations only when beneficial results can be achieved. Do not seed when drought, excessive moisture, or other adverse conditions prevail.

1) Rework excessively compacted topsoil prior to seeding.

2) Uniformly spread hay or straw mulch over seeded areas at the rate of 2 tons per acre. Apply mulch on the same day as the seed is applied. Provide means of preventing erosion in swales or culverts where topsoil is exposed until the seeded turf is established.

3) Water seeded areas immediately within the workday on which the seed and mulch is spread. Avoid puddling and erosion. Do not drive water trucks on freshly seeded areas. Water to supplement rainfall for a period of [___] days after seeding has been completed.

B. Alternatively, hydroseed all exposed topsoil with Bermuda grass. Follow manufacturer's instructions regarding distribution, mulch content, and watering. Seed shall not remain in the hydroseed slurry more than 24 hours prior to application.

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9. CLEAN UP.

A. Remove all debris and rubbish upon completion of the Work. Remove and transport debris in a manner that prevents spillage on streets and adjacent areas.

End of Section 02220

APPENDIX E

Deconstruction Costs

The following provides information on the costs involved in deconstructing wood frame WWII-era buildings, both at a programming- or budget-level and at a task-level. Unlike conventional construction, recorded productivity and cost data are extremely limited. Therefore, the data presented below must be considered approximate until additional experience is gained and a deeper database can be developed.

Sources of cost data are described at the end of this appendix.

Budget-Level Estimating.

The following assumes deconstruction is performed on a contract basis. A modest overhead factor is included, but no profit is included.

Deconstruct building	\$3.00 to \$3.50 / SF
Incl. denail lumber, handle and sort materials, prepare for transport and dispose of debris	\$5.00 to \$5.50 / SF
Incl. remove foundations, grade-to-drain, and seed site	\$6.00 to \$6.50 / SF

Note that the value of salvaged materials should offset at least a portion of the deconstruction cost. The following provide very general averages for material value.

Salvageable lumber	3 to 4 BF / SF of building
Salvaged lumber value (retail, 2x6s - 2x12s)	50% local value
Serviceable products and equipment (retail, less than 5 years old)	50% local value

Cost avoidance to the installation must also be factored into the net deconstruction cost. Cost to landfill C&D debris has been reported by PWBC Solid Waste personnel to be \$30 to \$50/ton.

Task-Level Data.

Actual cost of deconstruction will vary considerably depending on the labor source and wage applied. In general, semi-skilled Common Labor is appropriate for deconstructing a wood-framed building. Different project conditions and contract arrangements will result in different costs. Therefore, the following typical deconstruction tasks are described in terms of productivity. The appropriate labor rate can then be applied.

ITEM		UNITS	LABOR HOURS
Remove Interior Construction			
Remove interior partitions	8 - 10 ft high, incl. GWB and framing	LF WALL	0.60
	Includes denailing, material handling, sorting, & preparation for transport		
Remove gypsum wall board	Ceiling or walls, not incl. framing	SF	0.005
Remove 4 in. T&G	Horizontal	SF	0.18
Remove suspended ceiling	Suspension system and panels	SF	0.13
	Includes denailing, material handling, sorting, and preparation for transport		
Remove Windows & Doors	Including frames, Low	EA	0.50
	High	EA	1.00
	Includes denailing, material handling, sorting, and preparation for transport		
Remove HVAC Components	All components, Low	BLDG	2.00
	High	BLDG	10.00
	Includes handling and sorting for recycling and preparation for transport		
Remove ducts	Up to 24 in. x 24 in.	LF	0.05
Remove C.I. radiators	Cast iron free standing	EA	0.50

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ITEM		UNITS	LABOR HOURS
Remove space heaters	Ceiling or floor mounted	EA	0.50
Remove furnace	100 -150 MBTU	EA	2.00
Remove boiler	100 -150 MBTU	EA	8.00
Remove Electrical Components	All components Low	BLDG	4.00
Not incl. remove and separate PCB-containing ballasts, or fluorescent tubes for recycling	High	BLDG	10.00
	Includes handling and sorting, and preparation for transport		
Remove panels, boxes		EA	0.50
Remove light fixtures		EA	0.25
Remove Plumbing Components	All components Low	BLDG	4.00
	High	BLDG	10.00
	Includes handling and sorting, and preparation for transport		
Remove fixtures, incl pipe to rough-in	Avg; toilets, urinals, lavatories	EA	0.50
Remove supply piping	1 - 3 in. galvanized steel	LF	0.20
Remove DWV piping	4 in. cast iron	LF	0.06
Remove HW storage tank	200 gallons	EA	2.00
Remove Sprinkler System			
Remove piping	2 - 4 in. black steel pipe	LF	0.02
Remove pump	To recycle	EA	1.00
Remove Roof	All components, incl. roofing, sheathing and framing	SF BLDG	0.07
	Includes denailing, material handling, sorting, and preparation for transport		
Remove vents		EA	0.50
Remove gutters / downspouts		LF	0.02
Strip roofing materials	Shingles, 1 layer	SF ROOF	0.01

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ITEM		UNITS	LABOR HOURS
Remove roof sheathing	Boards	SF ROOF	0.015
Disassemble roof framing		SF ROOF	0.025
Remove Exterior Walls	All components, incl. interior and exterior surfaces	SF WALL	0.48
	Includes denailing, material handling, sorting, and preparation for transport		
Remove sheathing	1 in. board		0.20
Remove wall framing			0.01
Remove exterior siding	Clapboard or shiplap	SF WALL	0.20
	Metal (over wood siding)	SF WALL	0.02
	Vinyl (over wood siding)	SF WALL	0.01
Remove Floor	All components, incl. framing, deck, finish floor(s)	SF FLOOR	0.07
Strip flooring materials	1 layer resilient flooring, on underlayment	SF FLOOR	0.01
Remove wood T&G finish floor		SF FLOOR	0.02
Disassemble framing		SF FLOOR	0.02
Miscellaneous Site Activities		MSF BLDG	30.00
Waste Hauling	5 - 10 mile haul	MSF BLDG	4.00
	Not incl. tipping fees		
Indirect Costs	Add to direct cost	PERCENT	
	Incl. training, transporting materials onsite, daily setup and cleanup, other misc.		

Cost and Productivity Data Sources.

Budget level data were collected primarily from published case studies, and pro-rated to per-square-foot measures. A representative range of cost and labor requirement was determined. These figures were then compared to a simulated deconstruction estimate, as well as recent USACE project data.

Task-level data was collected from the following sources.

- Published case study data
- Job Order Contract Unit Price Database
- Recent USACE project data

A representative value for Labor Hours per unit was determined. The "Demolition" column of the Job Order Contract Database represents selective demolition cost, which is more typical of removal for salvage than straight demolition. Selected tasks were also adjusted to approximate the effort to remove an item for salvage and reuse, as opposed to removing it for disposal. Unit costs were then applied to simulated deconstruction estimates to verify consistency with published deconstruction case studies. Selective Demolition productivity data from R.S. Means *Building Construction Cost Data* were also consulted to verify the reasonableness of the data.

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