

SPECIFICATIONS
FOR
PROJECT MUHJ 10-4108
REPAIR BETHEL RESERVOIR FENCE
LANGLEY AFB, VIRGINIA

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for

Engineering and Technical Design Section

633 Civil Engineer Contracts Section

Langley AFB, Virginia

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Repair Bethel Reservoir Fence
Langley AFB, VA

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SECTION 01 11 00

SPECIAL CONDITIONS

REVISED 25 March 2010

PART 1 GENERAL

1.1 REFERENCES

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

SECTION 01 12 00 Environmental Special Conditions (Langley AFB)

U.S. ARMY CORPS OF ENGINEERS (USACE) EM 385-1-1
(15 September 2008 or most current version) Safety and Health Requirements

LANGLEY AFB TELECOMMUNICATIONS BUILDING CABLING SYSTEMS STANDARDS
(Langley AFB Specification 27 10 10 dated 2 June 2008 or most current version)

1.2 SUBMITTALS

The following items specified herein shall be submitted in accordance with SUBMITTAL PROCEDURES:

SD-03 Product Data

- Material Safety Data Sheet (MSDS) for each item
- State and EPA Region 3 Notifications
- Recycling Report
- Trip Tickets
- Affirmative Procurement Report
- Exemption Form, Annex B to LAFB Affirmative Procurement Plan 32-7080
- All Employee Names and Social Security Numbers
- Work Clearance Requests (Air Force Form 103)
- Quality Control (QC) Report

SD-11 Closeout Submittals

- Survey Report
- Metadata
- Deliverables and Final As-builts
- Three copies of Computer-Aided Drafting and Design (CADD) digital final as-built drawings on CD's
- One As-Built (Redline) Drawings
- Warranty of Construction

Equipment Warranty Certificate

Equipment Warranty/Guarantee Record

Construction Data **Worksheet and DD Form 1354 Acceptance and Transfer of Real Property Facilities**

1.2.1 SUBMITTAL PROCEDURES

1.2.1.1 Schedule of Material Submittals (Air Force Form 66)

Information, shop drawings, certificates, test data, etc., listed on the attached AF Form 66, Schedule of Material Submittals, shall be submitted for approval by the Contracting Officer, or his/her designated representative in accordance with the General Provisions. Whenever in this contract materials or drawings are required to be submitted by the Contractor to the Contracting Officer for approval and the material or drawings submitted are at variance with the specifications or Government drawings, but are, nevertheless, approved by the Contracting Officer, inadvertently and without consciousness of the variance, and regardless that a closer review could have revealed the variance, then such approval shall not be final unless the **Contractor** expressly noted in a memorandum to the Contracting Officer, on the material submittal or drawing that "this material or drawing varies from specifications in the following aspects -" or uses other words of similar clear meaning. In the event of such an inadvertent, erroneous approval, the Contracting Officer, upon discovering the variance at any stage, have the right to require the Contractor to do such rework and/or material replacement as is necessary to obtain compliance with the specifications, and the expense of such rework and/or material replacement shall be borne solely by the Contractor.

a. Submittals for technical compliance of finishes may be made individually for each material. **SUBMITTALS FOR PATTERN, COLOR, TEXTURE, ETC., SHALL BE MADE SIMULTANEOUSLY FOR EACH ROOM OR AREA.** Finishes shall be scheduled for each room/area to include surface, type material, manufacturer, brand name or product number, and space for the Government selection of pattern/color.

EXAMPLE:

Room 100

Floor:	vinyl	Tarkett	Reliant	(62107 Adobe)
Floor:	carpet	Milliken	Magistrate	(21 Clan Henna)
Wall:	paint	Pittsburgh	Spread-Flow	(white #21)
Wall:	vinyl	Flex-Wall	Pls. In a Roll	(Rajah Blue)
Wainscot:	paneling	Masonic	Fireguard	(walnut)
Ceiling:	acoustic	Gold Bond	Acoustinet	(fissure #21)
Trim:	paint	Glidden	Easy-Enamel	(0021 blue)

1.3 SCOPE OF WORK

The work under this project consists of removing fallen trees and vegetation off of the fence line and then replacing damaged sections of the chain link fence surrounding Bethel Reservoir as shown on attached diagrams and virtual map pictures.

1.3.1 Work Hours

Normal duty hours for Langley Air Force Base are 0730 through 1630, Monday through Friday. Work on weekends, recognized Federal holidays, or other than normal duty hours must be coordinated with the Contracting Officer (CO) or his/her designated representative.

1.3.2 General Working Conditions

- a. Work shall be performed in such a manner as to cause minimum disruption to the users in the area.
- b. The Contractor shall notify the Contracting Officer or his/her designated representative when he intends to work so Government inspection can be provided while work is in progress.

1.4 ORDER OF WORK

The Contractor shall coordinate all work with the Contracting Officer, or his/her designated representative, and the Base Civil Engineer. Before starting work at the job site, provide five days notice to the Contracting Officer or his/her designated representative and the Chief of Contract Management at 764-1149.

1.5 PHASING OF WORK

The Contractor shall use the following Sequence of Work in preparing his Contract Progress Schedule. It lists only highlights of the construction program and is not intended in any way as a complete scope of work. Each item shall be completed before the next item may be started. Work items not listed may be scheduled at any time.

1. Fence Section A (A.1 – A.5)
2. Fence Section B
3. Fence Section C (C.1 – C.4)
4. Fence Section D (D.1 – D.2); **Bid Option Item**
5. Fence Section E; **Bid Option Item**
6. Fence Section F; **Bid Option Item**

1.6 APPLICABLE CODES AND REGULATIONS

The latest edition of the following Building Codes shall be used for all construction under this contract:

International Building Code
Air Force Handbook 32-1084
National Electrical Code (NEC)
ANSI C-2, National Electrical Safety Code (QIESC)
Life Safety Code, NFPA 101
National Fire Protection Association (NFPA)
MIL Handbook 1190
Unified Facilities Criteria (UFC) 3-600-01

NOTE: If there is a conflict between these codes or regulations and these contract specifications, the most stringent requirements shall apply at all times.

1.7 SALVAGE

Title to all materials and equipment to be demolished, excepting items indicated as Government salvage, shall be vested to the Contractor upon removal from the base except as noted below. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed. All unsalvageable material will be disposed of legally off-base.

1.7.1 Items Salvaged for the Government

The Contractor shall salvage the following existing materials to the Government as indicated below. Salvaged materials shall be cleaned, sorted, identified, bundled, boxed, etc. and delivered to the collection location identified below.

None

1.8.1 General

The Contractor is reminded that the construction site must be operated and maintained according to these specifications and is subject to inspection and enforcement according to all federal, state and local codes/regulations.

1.8.2 Office Trailers and Storage Units

1.8.2.1 Office Trailers

If a trailer is required for work and at the discretion of the Government, an office trailer may be located at the project site. The Contractor shall request Contracting Officer approval for the trailer location. The Contractor shall make the request in writing at least fourteen calendar days prior to placement of trailer at site. All office trailers shall be located in areas as directed by the Contracting Officer or his/her designated representative. Any office trailer shall be not more than 10' x 32' in size, provided with a skirt on all sides, in like new condition, and painted either Langley Brown (Federal Standard 595a, 20100), Langley Beige, or white. Office trailers in need of painting and / or repairs or that are in an unsightly condition will not be allowed at the project site. Displayed on the exterior of all trailers shall be a nameplate which has the name of the Contractor's company, name for Contractor's point(s) of contact (POC) and telephone number where he or she can be reached, contract number, project number, title and date trailer was placed on site where located.

1.8.2.2 Storage Units

The Contractor shall request Contracting Officer approval for the siting, size and color of Storage Units, CONEX boxes and dumpsters. The Contractor shall not bring any such items to the job site without the Contracting Officer's approval. All storage units shall be painted Langley Brown (Federal Standard 595a, 20100), Langley Beige or white. Displayed on the exterior of all storage units shall be a nameplate which has the name of the Contractor's company, name for Contractor's point(s) of contact (POC) and telephone number where he or she can be reached, contract number, project number, title and date unit was placed on site where located.

1.8.3 On-Site Storage Units

Availability and size of material lay down area shall be restricted as noted on the contract documents or as discussed during the preconstruction conference. The Contractor shall consolidate all bulk and/or large quantities of materials at the construction site in area(s) approved by the CO. All such items shall be stored neatly grouped together. Bulky or unsightly construction materials, heavy or light equipment or tanks shall not be delivered to or stored on the construction site for any period longer than seven calendar days prior to use, installation in the project or start of construction. The Contractor shall store all supplies and equipment on project site so as to preclude theft or damage. Protection and security for materials and equipment on site is the sole responsibility of the Contractor. The Contractor shall not use any area(s) for material or equipment storage that has not been approved by the CO or his/her designated representative.

1.8.4 Fencing and Screening

Contractor shall enclose the lay down area with a chain link fence that has been erected to a minimum height of six feet. Contractor's lay down area shall also be screened from view. Screening shall be fabricated of 100% Polypropylene, woven, 92% blockage fabric that has been mechanically attached to the fence for the full height of the fence. The edges of each section of screening fabric shall be finished with a reinforced hem. Attachment points shall be reinforced fabric built into the hem or metal grommets built into the hem. All fabric used for screening of the construction lay down area shall be **UV rated and dark brown or dark bronze in color. Fence screening fabric shall be inspected weekly to insure all sections remain properly in-installed and taut at all times.**

1.8.5 Locksets

The Contractor shall provide cylinders and cores for new locks. Cylinders and cores that the Contractor provides shall have seven pin tumblers using the **A2 system** and **WB keyway**. All cylinders will be from a single manufacturer. All cores will be stamped with a key control symbol in a concealed place on the core. (For information only – the ***Best Premium*** WB Keyway, 7-Pin Core is part number 1CP7WB2.) The cylinders will be fully compatible with products of the ***Best Lock Corporation*** which have interchangeable cores that are removable by special control keys.

Provide and submit a grand master keying system and a sub-master keying system for the building that is an extension of the existing Langley Air Force Base keying system. ***Best Lock Corporation*** can key cores and provide keys in accordance with the Langley Air Force Base grand master keying system; the base grand master keying system will not be made available to outside contractors. Key the equipment spaces and mechanical rooms separately from the building systems. Key them alike to the existing Langley Air Force Base systems for equipment and mechanical space doors. Prior to installing any lock cylinder or cores, the contractor shall coordinate with the Langley Air Force Base locksmith to ensure compliance with the grand master keying system and master keying sequence, and that the proposed lock hardware will meet requirements of this specification.

1.8.6 Communications

The Contractor shall design and install new communications in accordance with the most current version of 633d COMM PREMISE WIRE DISTRIBUTION SYSTEM SPECIFICATIONS (Langley AFB).

1.8.7 Electrical Panels

Not Used

1.9 CONTRACTOR OPERATIONS

1.9.1 Grassy Areas

Grass and weed growth in excavated materials that are stockpiled on site shall be controlled and/or cut weekly. Weeds and grass within the construction site shall also be controlled and/or cut weekly and any bushes or shrubs shall be trimmed monthly. Areas disturbed by construction and/or those areas required by the plans to be "re-seeded" shall be re-established by hydroseeding only. Straw shall not be used as a cover for freshly seeded areas.

1.9.2 Privately Owned Vehicles (POVs)

POVs used by Contractor personnel to commute to work are required to park in existing parking lots. Contractor or Contractor's employees, including subcontractors, shall not park any personally owned vehicle (POV) or company and/or delivery vehicle on grassy areas near or in the construction site without prior approval from the Contracting Officer, or his/her designated representative. When allowed, parking on grassy areas will only be for short-term delivery purposes (to include heavy tools, equipment, construction materials, etc.). Use designated hard surfaces or existing parking lots near or within the project site for parking of POVs or company and/or deli-

very vehicles. Tire and track impressions (ruts) created on wet or soft soil by vehicles and/or equipment used in the Contractor's operations shall not be left for more than one day after removal of such vehicle or equipment that caused the rutting. The Contractor shall restore the affected area(s) of the site to its original condition within that one-day period.

1.9.3 Site Cleanup

During construction, the Contractor shall maintain all areas in a neat and orderly manner. Contractor shall keep the construction site cleaned daily of all construction trash, trash generated by employees, debris, and/or demolished building materials. If the work areas are not kept neat and orderly, the Contractor must return to the area to correct the unacceptable condition. During the laying of asphalt roads, streets and/or parking surfaces, areas soiled by residual asphalt shall be cleaned daily. The Contractor shall treat with lime entrances and exits to asphalt work site at his/her own expense.

1.9.4 Access Routes

Access routes to this project shall be along public access roads and through privately owned property. Contractor is responsible for securing permission to access work through privately owned property.

1.9.5 Removal of Formwork

The Contractor shall remove all concrete formwork and boards within fourteen calendar days after concrete pour.

1.9.6 Noise Control

The Contractor shall comply with all applicable state, local and installation laws, ordinances and regulations relative to noise control, to include applicable quiet hours exclusive to Langley Air Force Base. Work site is in a residential area of Langley Air Force Base. There shall be absolutely no construction activities in or around the construction site prior to or after the hours designated in "Work Hours" paragraph above without an approval from the Contracting Officer, or his/her designated representative. This restriction also applies to holidays also.

1.9.7 Excavations

All trenches/excavations shall be back filled and compacted to 95% of maximum Proctor density. Trenches will be top dressed with no less than three inches of shifted topsoil and then compacted. The finished area will be free of all debris, rocks and then graded to conform to the surrounding area. The area will be hydroseeded in accordance with SECTION 32 92 19 HYDROSEEDING of the specifications.

1.9.8 In-Ground Obstructions

Any type of raised obstructions shall have the surrounding soil backfilled, compacted to 95% of maximum Proctor density, and graded. The area will be top dressed as above to within three inches of the top of obstruction. Ground level obstructions will have the area dressed to the level of the obstruction. The area will be hydroseeded in accordance with SECTION 32 92 19 HYDROSEEDING of the specifications.

1.9.9 Architectural Compatibility

Due to Langley AFB's distinct historic architecture and the high visitor traffic it receives, several special actions are required during construction:

- a. The Contractor is solely responsible for spillage from his/her vehicles and such spillage shall be cleaned up immediately. For the duration of this contract and on a daily basis, the Contractor shall remove from all base roads and streets asphalt, mud, soil, rocks, trash and debris that result from his/her construction operation on base. All roads or streets affected shall be cleaned before close of business on the particular day affected. In the case of asphalt, roads will be cleaned and/or treated with lime immediately upon detection.

- b. Newly placed concrete curbing and sidewalks shall match existing, adjacent concrete in color and texture.
- c. Unprimed or factory-finished equipment installed on the exterior of facilities shall be painted with two coats of brown paint to match existing equipment.

1.9.10 Patching

Not Used

1.9.11 Repairs

Replace or restore all pavement, curb and gutter, and sidewalk disturbed by operations under this contract to the original condition, except where shown or specified otherwise. Compact backfill in pavement repairs with mechanical tampers to affect a density equal to adjacent subgrade. Replace pavement with equal materials and equal thicknesses to that removed, unless indicated otherwise. Each pavement area shall be replaced immediately after the work operation for that area is completed. At the Contractor's option, a temporary repair with a surface of bituminous concrete may be made immediately and removed and the permanent repair made before completion of the contract.

1.9.12 Marking

Contractor shall not mark any curb or pavement with paint.

1.9.13 Protection Requirements

The Contractor shall at all times protect and preserve the property of the Government which is within the work area and could be affected by the accomplishment of the work specified and indicated, and all parties and individuals within or near the work areas who could be endangered by the installation of the work.

1.9.14 Accidental Spills

In the event of fuel spillage during the performance of this contract, the Contractor shall be responsible for its containment, clean-up and related disposal costs. The operator shall have sufficient spill supplies readily available on the pumping vehicle or at the site to contain any spillage. In the Event of a Contractor related release, the Contractor shall immediately notify the Environmental Management Office and take appropriate actions to correct its cause and prevent future occurrences. If the federal, state, or local authorities assess any monetary fine, penalty or assessment related to the release of any substance by the Contractor, his/her employees, or agents during the performance of this contract, the Contractor shall be solely liable for its payment, authorizes the United States Air Force to withhold such form of payment and otherwise indemnify and hold the United States Air Force harmless.

1.10 ENVIRONMENTAL PROTECTION. PLEASE REFER TO LANGLEY AFB SECTION 01 12 00, ENVIRONMENTAL SPECIAL CONDITIONS.

1.10.1 Environmental Restoration Program (ERP) Requirements

Not Used

1.10.1.1 Contaminated Soil and Free Products

Any material (soil) that is suspected of containing petroleum products shall be reported to the Contracting Officer or his/her designated representative. If discovered, the Contractor shall mitigate any potential threat to the workers, public and environment. The area that will be disturbed under this contract has the potential to have free product migrate into and under the construction site. Comply with VR-680 and record the quantity of any fuel removed from [the line]. Contaminated soil and/or free product shall not be used for backfill or removed from

the base without written approval from the Contracting Officer. Once removal is approved, Contractor shall dispose of material under guidance of the Pollution Prevention Officer (633 CES/CEAN). All hazardous waste manifests shall be prepared by the Contractor and shall be coordinated, approved and signed by 633 CES/CEAN Hazardous Waste Manager (37 Sweeney Boulevard) prior to removal of such waste from the base.

1.10.1.2 Site Safety

Site summaries from our Management Action Plan are furnished with this contract to familiarize personnel with the potential hazards associated with construction and demolition work at these sites. Ensure workers are informed of potential hazardous exposures from working at these sites, and that the appropriate precautions are followed to minimize hazards to human health and the environment. Personnel working at these sites shall have 40-hour HAZWOPER Training. At least one individual on site should have completed the OSHA 8-hour supervisor training course. The plans identify the boundary of these IPR sites. To perform work at these sites, the Contractor must have a Health and Safety Plan and Hazardous Waste Disposal Plan for proper disposal of all regulated materials generated during execution of this project.

1.10.1.3 Monitoring Wells

Not Used

1.10.1.4 Additional Excavation

Prior to any excavation beyond the immediate area or boundary of the construction site, the Contractor shall coordinate with 633 CES/CEV and obtain the Contracting Officer's approval.

1.10.2 NOTIFICATION OF ASBESTOS CONTAINING MATERIALS (ACM)

Not Used

1.11 PROTECTION OF GOVERNMENT PROPERTY

1.11.1 General

The Contractor shall at all times protect and preserve the property of the Government which is within the work area and could be affected by the accomplishment of the work specified and indicated, and all parties and individuals within or near the work areas who could be endangered by the installation of the work. Protection requirements include protecting the interior of the facility from inclement weather. Any actions necessary for adequate protection are solely the Contractor's responsibility.

1.11.2 Protection of Equipment

Contractor is required to cover equipment that is to remain in place within the area of contract operations and protect it against damage or loss and store equipment that is removed in performance of work where directed or use in work as required by drawings and specifications. Equipment temporarily removed shall be protected and returned equal to its condition prior to starting work at no additional expense to the Government. Security for equipment or material that is to be reused and is removed for temporary storage shall be the sole responsibility of the Contractor.

1.11.3 Protection of Grounds

Contractor shall provide protective barriers for all grass, trees, shrubs, sidewalks, curbs and gutters within the construction boundary. Furthermore, such items, including grass, outside the construction boundary shall also be protected during delivery of materials and/or moving of equipment. Damages caused by the Contractor to existing grounds, plants, pavements, utilities, work by others, fixtures, or furnishings shall be repaired by the Contractor. Such repairs shall be of as good condition as existed before the damaging, unless such existing work is sche-

duled for removal or replacement by the work requirements of the contract. This requirement also pertains to grading of site to remove all clods and grade irregularities prior to final inspection and acceptance. The Contractor may be required to install temporary fencing to protect the site, at no cost to the Government.

1.12 SAFETY

1.12.1 Safety Barriers and Signs

Contractor shall provide barricades, traffic control signs and construction safety signs that meet industry standards. Actual location, size and final arrangement of these items shall be discussed and approved by the Contracting Officer prior to installation. Such approved items shall be of uniform size, design and color. All cones, barricades, warning lights, temporary signs and protective devices shall conform to the current requirements of the Federal Highway Administration's Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD) and the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1. http://mutcd.fhwa.dot.gov/pdfs/2003r1r2/pdf_index.htm

1.12.2 Employee Health and Safety

1.12.2.1 Compliance

In order to provide safety controls for protection to the life and health of employees and other persons; for prevention of damage to property, materials, supplies, and equipment; and for avoidance of work interruptions in the performance of this contract, the Contractor shall comply with all pertinent provisions of the Corps of Engineers Manual, **EM 385-1-1** (2008), entitled "Safety and Health Requirements Manual," as amended. The Contractor will also take or cause to be taken such additional measures as the Contracting Officer, or his/her designated representative may determine to be reasonably necessary for the purpose. A copy of the manual is available for review in the Civil Engineering Contract Management Section office (Bldg. 328) or copies can be obtained from the Government Printing Office, Washington DC 20402.

1.12.2.2 Subcontractor's Compliance

Compliance with the provisions of this clause by subcontractors will be the responsibility of the Contractor.

1.12.2.3 Safety Records

The Contractor will maintain an accurate record of, and will report to the Contracting Officer or his/her designated representative in the manner and on the forms prescribed by the Contracting Officer or his/her designated representative, exposure data and all accidents resulting in death, traumatic injury, occupational disease, and damage to property, materials, supplies and equipment incident to work performed under this contract.

1.12.2.4 Notification of Non-Compliance and Corrective Action

The Contracting Officer or his/her designated representative will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his/her representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Contracting Officer or his/her designated representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

1.12.3 Applicable Publications

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.

- a. Code of Federal Regulations (CFR):

- (1) OSHA General Industry Safety and Health Standards (29 CFR 1910), Publication V2206, OSHA Construction Industry Standards (29 CFR 1926). One source of these regulations is OSHA Publication 2207, which includes a combination of both Parts 1910 and 1926 as they relate to construction safety and health. They are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.
- b. National Emission Standards for Hazardous Air Pollutants (40 CFR, Part 61).
- c. Federal Standard (Fed. Std.):
 - (1) 313A Material Safety Data Sheets, Preparation and the Submission to the BioEnvironmental Office on Langley AFB. Safety and Health Requirements Manual, EM 385-1-1
 - (2) Use of Asbestos Containing Material or any Class 1 ozone depleting chemical compounds is prohibited at Langley AFB, DA Circular 40-83-4
 - (3) Work covered by this section: This section is applicable to all work covered by this contract.
 - (4) Definition of Hazardous Materials: Refer to hazardous and toxic materials/substances included in Subparts H and Z of 29 CFR 1910 and to others as additionally defined in Fed. Std. 313. Those most commonly encountered include asbestos, lead paint, polychlorinated biphenyl's (PCBs), explosives and radioactive material, but may include others. The most likely products to contain asbestos are sprayed-on fireproofing, insulation, boiler lagging and pipe covering.

1.12.4 Precautions Against Hazards

1.12.4.1 Welding, Cutting and Burning

Not Used

1.12.4.2 Open Flames

The use of open-flame heating devices **will not** be allowed except by special permission of the Contracting Officer or his/her designated representative. Such permission will not be granted unless the Contractor has taken all venting precautions. Burning trash, brush or trees on the job site will not be allowed unless specific approval is granted for each incident by the Contracting Officer or his/her designated representative. Approval for the use of open fires and open-flame heating devices will in no way relieve the Contractor from the responsibility of any damage incurred because of fires

1.12.4.3 Flammable Liquid Storage

Flammable liquids shall be stored and handled in accordance with the Flammable Liquids Code (No. 30) of the National Fire Protection Association. Flammable liquids shall not be stored in the Contractors storage trailers.

1.12.4.4 Technical Services

The Langley Fire Department, Technical Services Section, (757) 764-4275, is available for assistance concerning fire hazard questions.

1.13 SECURITY

1.13.1 General Base Requirements

Access to Langley AFB is restricted to those Contractor and subcontractor employees required for the performance of this contract and only for the performance period of this contract. Contractor passes are issued by the Pass and Registration Section, Bldg 15 (Room 103), after a signed letter from the Contractor listing **all employee names, dates of birth and social security numbers** has been delivered to and approved by the Contracting Officer

or his/her designated representative. Procedures for requesting Base Passes for employees and Contractor vehicles will be further explained during the preconstruction conference.

1.13.1.2 Applicable Security Criteria

AFI 31-101, The Air Force Installation Security Program shall apply to construction projects at Langley AFB, Virginia.

1.13.2 Emergency Security Situations

If a security violation is detected from any cause, it may result in the cessation of all work and evacuation of the area by all Contractor personnel to a point to be determined by the Security Police Supervisor at the scene. The control of construction personnel under these conditions is a Security Police Officer and their orders shall be followed in detail. Construction will be permitted to resume as quickly as possible. The individual causing the violation may be apprehended, and if so, will be processed and released to a responsible supervisor; such person might be away from his/her work site as long as 1 to 1½ hours. If a hostile situation is detected as a result of the construction activity, the entire crew may be removed from the area and detained until competent authority approved their release. All Security Police exercises will be scheduled to not interfere with construction personnel or with their work.

1.13.3 Work In Special Security Areas

1.13.3.1 Escorts

Government shall provide all escorts required for access to security areas while working on construction projects at LAFB.

1.13.4 Restricted Areas

Not Used

1.13.5 Airfield Requirements

Not Used

1.14 HISTORIC DISTRICT/ARCHITECTURAL COMPATIBILITY

Due to the distinct historic architecture and the high visitor traffic LAFB receives, several special actions are required during construction and are listed herein.

1.14.1 Newly Placed Concrete

When placing concrete adjacent to existing concrete, all newly placed concrete curbs, gutters and sidewalks shall match existing adjacent concrete in color and texture. Miami Buff is the predominate color used on LAFB. All concrete that is newly placed by the Contractor shall be Miami Buff in color unless specifically noted otherwise in the contract documents or instructed otherwise by the Contracting Officer or his/her designated representative.

1.14.2 Unprimed or Factory Finished Equipment

Not Used

1.14.3 Patching

Not Used

1.14.4 Pavement Repairs

Replace or restore all pavement, curb and gutter, and sidewalk disturbed by operations under this contract to the original condition, including any markings or striping, except where shown or specified otherwise. Compact Backfill in pavement repairs with mechanical tampers to affect a density that is equal to adjacent subgrade. Replace pavement with equal materials and equal thickness to that removed, unless indicated otherwise. Each pavement area shall be replaced immediately after the work operation for that area is completed. At the Contractor's option, a temporary repair with a surface of bituminous concrete may be made immediately and removed and the permanent repair made before completion of the contract.

1.14.5 Marking Restrictions

Contractor shall not mark any curb or pavement with paint unless directed by the Contracting Officer or his/her designated representative.

1.15 RECORDING AND PRESERVING HISTORICAL AND ARCHAEOLOGICAL FINDS

1.15.1 Preservation

All items having any apparent historical or archeological interest, which are discovered in the course of any construction activities shall be carefully preserved. The Contractor shall leave the archeological find undisturbed and shall immediately report the find to the Contracting Officer or his/her designated representative so that the proper authorities may be notified.

1.15.2 Rehabilitation

All repair, maintenance, and construction must be completed in a manner that is consistent with the Secretary of the Interior's "Standards for Historic Preservation Projects" and the Secretary's "Illustrated Guidelines for Rehabilitating Historic Buildings".

1.16 EXCAVATION REQUIREMENTS

The Government will furnish the Contractor with an approved AF Form 103, BCE Work Clearance Request, indicating any special precautions and/or areas that will be marked (for utilities). The contract drawings, AF Form 103 and marking will indicate all information the Government has knowledge of, but will not indicate all conditions that may occur in the field. The Contractor shall not begin (work) excavation until the Clearance Request is issued. The Contractor shall be responsible for removing all markings made for his benefit as soon as the need for an individual mark is passed. The Government will mark utilities one time only. Maintaining these marks or additional marking is the responsibility of the Contractor.

1.16.1 Acquiring a Work Clearance Request (Air Force Form 103)

A coordinated and approved Work Clearance Request is required prior to any excavation activities. The Contractor shall submit a request to the Project Inspector 14 days prior to the start of excavation work. All requests must be initiated not later than Thursday of any week to be inserted into the Work Clearance approval process for the following week. The Contractor will be notified to attend a Work Clearance scheduling meeting. At the Work Clearance meeting, the Contractor will receive an AF Form 103, instructions for completing the form, and a date and time for utilities to be marked. **The Contractor shall not commence excavation prior to obtaining an approved AF Form 103.** After all respective utilities have been marked and verified by the Project Inspector, the Contractor shall return the original AF Form 103 to his/her respective Project Inspector for coordination and signature by the Chief of Engineering. No digging or excavation shall begin before the Chief of Engineering signs the AF Form 103. After the Chief of Engineering signs the AF Form 103, the Project Inspector will return it to the Contractor. Then, and only then, shall the Contractor commence excavation. The Contractor shall maintain all utility markings for the duration of the contract. Contractor shall maintain original version of the AF Form 103 for the duration of excavation work at the particular site. Ensure all applicable parties have coordinated on

the form prior to excavation. For Miss Utility, use the Ticket Information Exchange (TIE) number or actual technician signature as evidence of coordination. The AF Form 103 clearance shall not be allowed to expire. The Contractor shall revalidate/resubmit the AF Form 103 within seven days prior to the expiration date if it is anticipated or known that the duration of excavation will exceed the 30-day limitation.

1.16.2 Miss Utility

Contractor shall contact Miss Utility (1-800-552-7001) at least 48 hours prior to excavation to identify non-Air Force-owned underground utilities (cable TV, Bell Atlantic and Virginia Power, etc.). Notices to Miss Utility are good for 15 working days; after that period, Contractor shall renew the notice. Indicate renewals on the AF Form 103 as applicable. Miss Utility is open 24 hours, seven days a week. Calls after 1700, before 0700, on weekends and on holidays are accepted for emergencies only. Holidays include: New Year's Day, Martin Luther King Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. After 48 hours, Contractor should contact Miss Utility to confirm that clearance/markings operations have been completed. The Contractor must wait an additional 24 hours if any operators or contract locators have not responded to the Ticket Information Exchange (TIE) system request within the first 48 hours.

1.16.3 Markings

1.16.3.1 General Requirements for Marking Utilities

- a. Prior to commencing any excavation, the Contractor must inspect the site for clear evidence of unmarked facilities. If evidence of such facilities is present, the excavator must notify the notification center and wait an additional three hours for the facilities to be marked.
- b. The Contractor may choose to wait 72 hours and begin work after that time if there is no evidence that any underground facilities remain unmarked. However, it is recommended that Contractors contact the TIE system and confirm the status of underground facilities before they commence work.
- c. After the markings have been made, Contractors are required to maintain a minimum clearance of two feet between a marked, underground utility line and the cutting edge of any power-operated excavating equipment. If excavation is required within two feet of any marking, it shall be performed very carefully with hand tools in accordance with Virginia Code Section 56-265.24.
- d. If, during the course of excavation, a utility line has been exposed, before backfilling, the Contractor must inspect these facilities to ascertain if the facilities have been damaged. If damage of any kind is discovered or suspected, it is the Contractor's responsibility to immediately notify the utility owner directly. The Contractor must NOT attempt to repair damaged facilities.
- e. Maintain any paint marks or stakes indicating underground utilities/lines as required during the duration of work or thirty calendar days from date of approved AF Form 103 (whichever is earlier). Note that Miss Utility clearance expires after fifteen working days.

1.17 OCCUPANCY AND SERVICES TO EXISTING FACILITIES

Not Used

1.18 UTILITIES

All reasonable amounts of water and electricity required for this work will be made available to the Contractor if such utilities exist at the project site. Temporary lines, connections, installation, maintenance and removal shall be the Contractor's responsibility. The Contracting Officer, or the Contracting Officer's designated representative, shall approve any temporary lines and connections. All services are subject to discontinuance without notice to the Contractor in an emergency. Three-phase power may not be available. **The Contractor shall provide his/her own necessary utilities when such utilities are not available at the project site.**

1.19 UTILITY OUTAGES AND TRAFFIC

Contractor shall request utility/power outages and/or changes to normal traffic flow pattern 14 calendar days in advance of disruption or change to either.

1.20 CONVENIENCE FACILITIES

Existing restroom facilities may not be used by construction personnel. The Contractor shall maintain, in a neat and sanitary condition, such accommodations for the use of his employees. Temporary restroom facilities shall be white in color.

1.21 SUPERVISION

1.21.1 Working Supervisor

The Contractor shall designate an employee or employees to oversee work under this contract. This employee will be a working supervisor. While any work is being performed, the designated employee or employees shall remain at the job site, except for such incidental errands as required by his/her duties. The employee or employees are responsible for the proper coordination and timeliness of the work, and the proper workmanship of all trades; therefore, his/her absence from the project site shall be considered as damaging to the Government. The ability of his/her supervision, based on knowledge and experience, is essential to the proper execution of the work, as is the ability to communicate and direct the efforts of those performing the work. The Government reserves the right, in the event that it becomes apparent the employee or employees are not satisfactorily directing the work, to require the Contractor replace the employee or employees.

1.21.2 Superintendent

Not Used

1.22 GOVERNMENT FURNISHED PROPERTY

Not Used

1.23 RECORD DRAWINGS

1.23.1 Record of Work Progress

During the progress of the work, the Contractor shall keep a careful record at the job site of all changes, corrections and deviations from the layouts and details shown on the drawings to include all contract modifications. The Contractor shall enter such changes on project drawings promptly, but not later than on a weekly basis. Such revised drawings shall be considered "redline" as-built drawings.

1.23.2 Record of Underground Utilities

Where underground utilities are installed, note the elevation of the utility installed every thirty feet. Where new utilities cross existing utilities, note the elevation of the new and existing utility and the vertical and/or horizontal separation. Where new utilities run parallel to new and existing utilities, note the elevation at which installed and the horizontal and/or vertical separation between utilities.

1.24 DELIVERABLES AND FINAL AS-BUILTS

1.24.1 Geodetic Control Surveys

The Contractor shall provide horizontal and vertical control surveys for the precise location of primary survey points for planning, engineering, construction, real estate projects, GIS applications or facility management.

1.24.2 Deliverable Requirements

- a. The contractor shall use conventional surveying and other methods, such as a total station or Global Positioning Systems (GPS) for field data collection at an accuracy level in accordance with “Geospatial Positioning Accuracy Standards, Part 4: Architecture, Engineering, Construction, and Facilities Management,” published by the Federal Geographic Data Committee (FGDC), dated February 2002. This standards document can be found at:
http://www.fgdc.gov/standards/status/sub1_5.html.
- b. All geospatial data shall overlay on the installation’s most current orthorectified imagery provided by the government. The collected data will incorporate the coordinate and projection system of the imagery, NAD 83 Virginia State Plane South, NAVD 88, and have an external spatial reference (.prj) file attached that specifies the parameters of the coordinate system.
- c. The contractor shall provide survey grade GPS data at an accuracy level of ± 2 cm. where appropriate (as determined by the Government), and all other collection at a resource grade accuracy level of $\pm < 0.5$ meter.
- d. The contractor shall provide a quality control (QC) report that must state whether all inconsistencies in the data generated were corrected, or it must detail the remaining errors by case.
- e. Data on the location of utility lines shall be captured at a minimum every 50 feet and each turn or bend in a utility line must also be captured.
- f. The contractor shall prepare and submit a GIS .mdb that links the respective spatial and tabular databases through ESRI ArcGIS 9.1. The contractor shall utilize a topology build and clean routine and assure the following:
 - o No erroneous overshoots, undershoots, dangles or intersections in the line work
 - o Lines should all be continuous, i.e. do not create dashed lines with many small line segments
 - o Point features should be digitized as points, not graticules, symbols or icons
 - o No sliver polygons
 - o All polygons completely close and have a single unique centroid
 - o Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
- g. Feature Attributes: The contractor shall identify the classification, type, location, ID number, and any other necessary attributes (specified by the Government) for all surveyed, mapped, designed or proposed features.
- h. Entity naming conventions, attribute fields, and domain names will be collected in the format defined by the *CADD/GIS Technology Center’s Spatial Data Standards (SDS) release 2.3* (or the most current version available), except where modified by the government. This standards document can be found at: <http://tsc.wes.army.mil/products/tssds-tsfmts/tssds/projects/sds/>. Metadata: The contractor shall complete all metadata elements marked mandatory and mandatory-if-applicable as defined by the *FGDC Content Standards for Digital Geospatial Metadata* for each feature layer collected. This standards document can be found at:
<http://www.fgdc.gov/metadata/contstan.html>.
- i. Metadata must include an NSSDA accuracy statement at the 95% confidence interval & corresponding calculation worksheets as outlined in “Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy,” published by the Federal Geographic Data Committee (FGDC). This standards documentation can be found at:
http://www.fgdc.gov/standards/status/sub1_3.html
- j. Metadata should be submitted in ESRI ArcGIS 9.x format and stored as an XML document with the corresponding feature layer.

1.24.3 Topographic and Infrastructure Surveys

The Contractor shall provide surveys to consist of, but are not limited to, field data acquisition of detailed topographic, planimetric and infrastructure feature data for use in engineering site planning, cost estimating, design, as-builts, and construction layouts.

1.24.4 Computer-Aided Drafting and Design (CADD) Digital Drawings

These deliverables include, when applicable, (but are not limited to): roof plans, interior designs or layouts, floor plans, blueprints, engineering drawings or details, architectural drawings or details, construction drawings or details, cross-sections, wall sections, stair details, elevations, and other schematics generally used in the design, repair, construction, or maintenance of Government installations.

- a. All CADD data deliverables shall be created or designed with the AutoCAD version 2007 (or latest version) drawing software. Drawings will be delivered in the AutoCAD “.DWG” file format as “stand alone” drawing files without separate reference files.
- b. The contractor shall use the A/E/C CADD Standard 2.0 (or latest version) when creating or revising any CADD data deliverables. These standards can be found or reviewed at: <http://tsc.wes.army.mil/Products/standards/aec/intro.asp>.
- c. The Industry Standard model file and sheet naming conventions, consisting of a Discipline/Code Designator, Drawing Type Code, Sheet Type Code/Designator, and Sheet Sequence Identifier shall used for all submissions - diagrams of this naming convention can be found in the A/E/C CADD Standard.
- d. All submittals should include any standards sheets (abbreviations, symbols, fonts, etc.) necessary for a complete project, and document any nonstandard fonts, tables, symbols, etc. that are used.
- e. All drawing files, unless otherwise specified, will use units of the English System.
- f. Acceptable drawing scales depend on the type of drawing and the size of area the drawing encompasses - A detailed description of which drawing scale to select can be found in the A/E/C CADD Standard Release 2.0 (or latest version).

1.24.5 Delivery Format

Note: No deviations from the Government’s established standards will be permitted unless prior written approval of such deviation has been issued by the Government. All linkages of non-graphical data with graphic elements, relationships between data objects and attributes, and report formats shall be maintained.

These deliverables include, but are not limited to the following:

- a. Site plans
- b. As-built drawings
- c. Engineering designs, plans or surveys
- d. Topographic surveys or studies
- e. Boundary or Cadastral surveys
- f. Master Plan drawings
- g. Utility (water, sewer, power, storm, etc.) designs, plans, surveys and studies
- i. Pavement, Grading or Excavation plans
- j. Soil/Geology studies or surveys
- k. Environmental assessments, surveys, studies or plans
- l. Historical or Archaeological surveys, studies or plans

All data deliverables shall be in a digital (electronic information) format and shall be delivered in a format that conforms to the CADD/GIS Technology Center's Spatial Data Standards version 2.4 (or latest version available) and A/E/C CAD Standards version 2.10 (or latest version available) as applicable. These standards documents and programs can be found at <http://tsc.wes.army.mil/products>. ALL digital files shall be delivered in a format that is directly readable and compatible with the installation's software and hardware platforms without conversion.

1.24.6 Setup Procedures for Deliverables

The following procedures must be performed before a file is placed on the delivery media:

- a. Include all files, both graphic and non-graphic, required for the project. Make sure all files are in the same directory, and that references to those files do not include device or directory specifications.
- b. Ensure all reference (external reference) files are merged into each drawing, NOT attached and, without device or directory specifications.
- c. Remove all extraneous graphics/text outside the project border area, and set the active parameters to a standard setting (or the setting contained in the seed or prototype file).
- d. Include any standards sheets (abbreviations, symbols libraries, font libraries, color tables, pen tables, plot configuration files, user command files, etc.) necessary for a complete project.
- e. Compress and/or reduce all files using the appropriate utilities. A digital media copy of the decompression utility should be provided with the delivered data.

1.24.7 Delivery Media

Acceptable Delivery Media

- a. CD-ROM

AND one set of as-built drawings on Mylar (minimum 4 mil thick) media at project completion

CD-ROM is the preferred format due to its extended shelf life. Digital media must have an external label listing format and version of the operating system on which the media was created (e.g. Windows 2000), utility (command) used for writing the files to the media, a short description of contents, a sequence number if there are multiple volumes, and the date of CD creation.

A transmittal sheet must accompany the media containing the information included on the external labels, total number of volumes being delivered and a list of file names and file descriptions on each volume. The transmittal sheet must also include instructions for reading, restoring, or transferring the files from the media, and certification that all delivery media is free of known computer viruses - including the name(s) of the virus scanning software, date the virus scan was performed, virus definition pattern date of service and version.

1.24.8 Government Furnished Materials

The Government will provide the contractor with data and information concerning all necessary and pertinent functions and principal features of the identified project. These items will include:

- a. The installation's latest georeferenced digital planimetric data and/or base map in ESRI Arc/Info 8.x format, or best format available, with associated data files.
- b. The installation's most current orthorectified imagery and its geospatial parameters (coordinate system, datum, projection, distance units).
- c. Any pertinent and necessary prototype or seed files.
- d. Frequency settings for the Real-Time Kinematic (RTK) GPS Base Station and the preferred GPS receiver specifications.

Any other data or schematics deemed necessary for project completion, pending approval from the Government.

1.24.9 Government Review

The Government shall review the submitted data and documentation upon completion of all stated work. Missing or incomplete items will be documented and forwarded to the Contractor for completion. Upon receipt of a complete submittal, the Government will conduct a quality review and notify the contractor within fourteen calendar days of acceptance (along with any stipulations this includes) or rejection of the deliverables described herein. Failure to adhere to any of the stated delivery specifications could result in rejection of deliverables and nonpayment. Contractors should, at a minimum, submit data and documentation samples at 25% and 75% project completion to avoid the rejection of final deliverables.

1.24.9.1 Geo Integration Office Point of Contact

Any questions regarding data collection efforts, deliverable formats or deliverable specifications should be addressed to the Geo Integration Office, contact information:

37 Sweeney Boulevard Room 224
Langley AFB, Virginia 23665
(757) 764-1164

1.24.10 As-Built Drawing Submittal

At the time of beneficial occupancy, the Contractor shall submit as-built data to the Contracting Officer, or his/her designated representative, incorporating the aforementioned information into the project drawings. The Contractor shall also ensure that a separate copy of all similar as-built data is provided for delivery to the Base GeoBase Office. The as-built deliverable (plans, shop drawings, surveys, studies, imagery, designs, manuals, spare parts lists, etc.) shall be in a digital (electronic information) format and shall be delivered on standard compact disks (minimum 650 megabytes) in a format that is directly compatible with the CADD/GIS Technology Center's Spatial Data Standards, Version 2.0 (or latest version available). No "redline" or marked-up drawings will be accepted as the final as-built drawings. The data provided shall be compatible with AutoCAD Map and shall be submitted by the Contractor to the Contracting Officer, to the Base GeoBase Office, and to the Engineering Support on three separate compact discs (CDs). In addition, one set of as-built drawings will be submitted to Engineering Support on Mylar (minimum 4 mil thick) media; as-builts on paper media will not be accepted.

1.25 WARRANTY OF CONSTRUCTION

- a. In addition to any other warranties in this contract, the Contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes or fraud.
- b. This warranty shall continue for a period of one year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date the Government takes possession. In the event the Contractor's warranty of this clause has expired, the Government may sue, at its expense, to enforce a subcontractor's, manufacturer's or supplier's warranty.
- c. The Contractor shall remedy, at the Contractor's expense, any failure to conform or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to Government-owned or controlled real or personal property when that damage is the result of:
 1. The Contractor's failure to conform to contract requirements, or
 2. Any defect of equipment, material, workmanship or design furnished.

- d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.
- e. The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.
- f. If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair or otherwise remedy the failure, defect or damage at the Contractor's expense.
- g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
 - 1. Obtain all warranties that would be given in normal commercial practice, and
 - 2. Require all warranties to be executed, in writing, for the benefit of the Government if directed by the Contracting Officer, and
 - 3. Enforce all warranties for the benefit of the Government if directed by the Contracting Officer.
- h. Unless a defect is caused by the negligence of the Contractor, subcontractor or suppliers at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government or for the repair of any damage that results from any defect in Government-furnished material or design.
- i. Defects in design or manufacture of equipment specified by the Government on a "brand name and model" basis shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers or suppliers thereof to execute their warranties, in writing, directly to the Government.
- j. The warranty enumerated herein does not preclude any manufacturer warranties in excess of one year as noted in the individual specifications sections. The Contractor should read each section carefully to ensure that he/she is aware of all warranties called for in this project.

1.26 WARRANTY/GUARANTEE RECORDS

1.26.1 Certification of Equipment

The Contractor shall prepare Optional Form(s) (OF) 274, **Equipment Warranty Certificate**, and affix the certificate(s) to all warranted components of the equipment installed during the project. When a complete mechanical system has been installed, affix the OF(s) 274 to the Mechanical Room door also. If the warranted items are in a new facility, Optional Form(s) 274 shall be placed as mentioned above. The Construction Inspector will distribute the OF 274 to the Contractor during the Pre-Construction Conference. The Contractor shall place all OF(s) 274 on the appropriate equipment prior to final acceptance of the project by the Government.

1.26.2 Listing of Equipment

The Contractor is required, prior to the final inspection to provide a listing of all equipment or material carrying a manufacturer's warranty or as indicated in the specifications. Use the following **Equipment Warranty/Guarantee Record** for each item and attach manufacturer's certificate as appropriate.

Equipment

Warranty / Guarantee Record

Facility No: _____ Project No: MUHJ _____

Project Title: _____ Work Order: _____ Shop Code: _____

Item: _____ Location: _____ Contractor: _____

Prefix: _____ Suffix: _____ Serial No: _____ Model No: _____

Style: _____ HZ: _____ Volts: _____ HP: _____ Size: _____ Frame: _____

Purchase Cost: _____ Replacement Cost: _____ Manufacturer: _____

Date Purchased: _____ Date Installed: _____

Effective Date: _____ Expiration Date: _____

Replacement, New or Other: _____ Purchase Number: _____

GSA Contract Number: _____

Contract Inspector: _____ Phone: _____

Remarks: _____

Evaluator: _____ Grade: _____ Title: _____ Orgn: _____

1.27 SEASONAL HVAC REQUIREMENTS

Not Used

1.28 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

This provision specifies the procedure for the determination of time extensions for unusually severe weather. The listing below defines the adverse weather days that are anticipated monthly. The listing is based upon data from the National Oceanographic & Atmospheric Administration (NOAA) or similar data.

MONTHLY ANTICIPATED ADVERSE WEATHER CALENDAR DAYS

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
13	12	12	9	10	9	10	10	7	8	10	12

1.28.1 Base Line

The above schedule of anticipated adverse weather will constitute the base line for monthly (or portion thereof) weather time evaluations. Upon acknowledgment of the Notice To Proceed and continuing throughout the contract on a monthly basis, actual adverse weather days will be recorded on a calendar day basis (include weekends and holidays) and compared to the monthly anticipated adverse weather in the schedule above. The term “actual adverse weather days” shall include days impacted by actual adverse weather days.

1.28.2 Calculation of Adverse Days

The number of actual adverse weather days shall be calculated chronologically from the first to the last day in each month. Once the number of actual adverse weather days anticipated in the schedule above have occurred, the Contracting Officer, or his/her designated representative, upon the Contractor’s written request, will examine any subsequently occurring adverse weather days to determine whether the Contractor is entitled to a time extension. Before adverse weather entitlement is granted, the Contractor must demonstrate that fifty percent or more of his/her workdays were affected by the subsequent adverse weather. The adverse weather must also delay work critical to the timely completion of the project. The Contracting Officer, or his/her designated representative, will convert any delays meeting the above requirements to calendar days and issue a modification.

Note: For all weather dependent activities, the Contractor’s schedule must reflect the anticipated adverse weather delays that are noted above.

1.28.3 Examples of Adverse Weather

The following is considered as adverse weather: Weather of a nature that workers cannot perform work as scheduled or get to work site (i.e. hurricane, tornado, high winds, floods, extremely cold weather, ice storm, sleet, heavy snow storm, et cetera).

1.29 FINAL INSPECTION AND ACCEPTANCE STANDARDS

1.29.1 Seeding

Within seven workdays of actual completion of work at contract site, the Contractor shall grade, rake, and seed (or sod), or prepare for seeding (or sodding). **New turf and turf restoration shall be established or accomplished by hydroseeding or sodding in accordance with Section 32 92 13 TURE.** When areas of the site are raked prior to seeding (or sodding) or for leveling of topsoil to rid the site of mounds, clods and / or ruts, the Contractor shall ensure that no clods larger than 1” are left on the site. Contractor shall restore the site to a condition and appearance similar or equal to existing before the damages occurred. Such restoration work will not be considered complete until approved by the CO or his/her designated representative. The Government will not accept sites that have not been raked and restored to this standard. **Straw shall not be used as a cover for newly sown seeds or freshly seeded areas.**

1.29.2 Removal of Signs and Barriers

All Contractors’ stakes, traffic/safety cones and barriers, warning tape, erosion control fences, et cetera, that are erected during construction, shall be removed entirely prior to Government final acceptance of project.

1.29.3 Removal of Trailers and Storage Units

All trailers, equipment/storage units, residual construction materials shall be removed from construction site within five workdays after completion of work at that job site.

1.30 CONSTRUCTION DATA WORKSHEET

The Contractor is required, **at least forty five days prior to the final inspection**, to submit a completed copy of the following **Construction Data Worksheet** or, preferably, a completed preliminary form DD 1354 (available at <http://www.dtic.mil/whs/directives/infomgt/forms/efoms/dd1354.pdf>). Both the DD1354 and worksheet are used by the Air Force to inventory and capitalize new work. The Contractor shall complete only those areas of the form that are applicable to the work included in this project.

DD FORM 1354 CHECKLIST

1. General Building Data.

Exterior Dimensions: SF: (Main Bldg)

SF: (Wings)

SF: (Offsets)

No of Stories:

Dimensions of Covered Walkways/Corridors:

Type of Construction:

Foundation:

Floors:

Exterior Walls:

Roof:

Utilities:

Water (Type and size of pipe):

Gas (Type and size of pipe):

Electric (Phase, voltage, wire):

Other Utility (Type, capacity, etc.):

DD FORM 1354 CHECKLIST

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2. Installed Systems & Plants.

<u>Category</u>	<u>Nomenclature</u>	<u>Unit</u>	<u>Quantity</u>	<u>Cost</u>
- Fire Protection.				
880-211	Closed Head Auto Sprinklers	SF/HD	.....	.....
880-212	Open Head Deluge System	SF/HD	.....	.....
880-216	Pre-action Sprinkler System	SF/HD	.....	.....
880-217	AFFF PA Sprinkler System	SF/HD	.....	.....
880-218	Hi-Expansion Foam System	EA	.....	.....
880-221	Auto Fire Protection System	SF/EA	.....	.....
880-222	Manual Fire Alarm System	EA	.....	.....
880-231	CO ₂ Fire System	EA	.....	.....
880-232	Foam Fire System	EA	.....	.....
880-233	Other Fire System	EA	.....	.....
880-234	Halon 1301 Fire System	EA	.....	.....
880-235	Dry Chemical System	EA	.....	.....
880-236	Foam System	EA	.....	.....
- Security.				
872-841	Security Alarm System	EA	.....	.....
- Installed Plants.				
890-124	A/C from Central Plant	SF	.....	.....
890-126	A/C Window Units	SF/TN	.....	.....
890-125	A/C Plant < 5 Tons	SF/TN	.....	.....
890-121	A/C Plant 5 - 25 Tons	TN	.....	.....
826-122	A/C Plant 25-100 Tons	TN	.....	.....
826-123	A/C Plant > 100 Tons	TN	.....	.....
821-115	Heating Plant 750-3500 MBh	MB	.....	.....
821-116	Heating Plant Over 3500 MBh	MB	.....	.....
811-147	Emergency Power Generator	KW	.....	.....
124-xxx	Fuel Tank for Heating/Generator	GA	.....	.....

(Type of Fuel:)

3. Related Facilities.

116-xxx	Pads (Type: .....	)	SY	.....	.....
411-xxx	Large Storage Tanks (Contents: .....	)	BL	.....	.....
812-223	Pri Elec Distr	- Overhead	LF	.....	.....
		- Transformers	KVA	.....	.....
		- Power Poles	LF/EA	.....	.....
812-224	Sec Elec Distr	- Overhead	LF	.....	.....
812-225	Pri Elec Distr	- Underground	LF	.....	.....
		- Transformers	KVA	.....	.....
812-226	Sec Elec Distr	- Underground	LF	.....	.....
812-926	Exterior Area Lighting (Street/Park)		EA	.....	.....
824-464	Gas Mains		LF	.....	.....
831-169	Sewage Septic Tank		KG	.....	.....
832-255	Industrial Waste Mains		LF	.....	.....
832-266	Sanitary Sewer Mains		LF	.....	.....
841-161	Water Supply Mains		LF	.....	.....
842-245	Water Distr Mains		LF	.....	.....
843-315	Fire Hydrants		EA	.....	.....
851-143	Curbs & Gutters		LF	.....	.....
851-145	Driveway		SY	.....	.....
851-147	Road		SY/LF	.....	.....
852-262	Vehicle Parking		SY	.....	.....
852-289	Sidewalk		SY	.....	.....
871-183	Storm Drains		LF	.....	.....
872-247	Security Fence		LF	.....	.....
872-248	Interior Fence		LF	.....	.....
890-144	Compressed Air Distribution		LF	.....	.....
890-158	Load/Unload Platform		SF	.....	.....
890-187	Utility Vault		SF	.....	.....
890-272	EMCS Field Equipment		EA	.....	.....
890-273	EMCS Data Links		LF	.....	.....
135-583	Telephone Duct		LF
135-586	Telephone Pole		LF

DD FORM 1354 CHECKLIST

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4. Additions to Existing Facilities.

Use checklists 1 - 3 above. Include any plants, systems, real property installed equipment or related facilities added, removed or replaced.

5. Alterations or Renovations to Existing Facilities.

Use checklists 1 - 3 above. Include plants, systems, real property installed equipment or related facilities added, removed or replaced. If demolition of existing facilities was a part of the project, include the specifics and costs related to the demolition.

6. Remarks.

Add any explanatory remarks or descriptions which more fully describe the items. At a minimum, this includes the manufacturer, model, serial number, manufacturing date and cost of each major piece of equipment including but not limited to: generator, HVAC unit, fire suppression or alarm panel.

7. When is the Contractor required to prepare and submit a DD Form 1354?

- Initial construction of a new facility
- Addition to an existing facility
- Demolition of an existing facility (and all its associated related real property)
- Removal of or upgrade to an installed system as defined in checklist 2.
- **In general, if the project was funded in part or in whole with minor construction (EEIC 529) or MCP funds, a DD Form 1354 is required in order to transfer the completed construction to real property records.**

DD FORM 1354 CHECKLIST

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-- End of Section --

ASSET MANAGEMENT SPECIAL CONDITIONS

1. ASSET MANAGEMENT: All work is to be performed in a manner that prevents pollution, protects the environment and conserves natural resources.

1.1 WASTE DISPOSAL:

1.1.1. SOLID WASTE DISPOSAL.

1.1.1.1. Compliance With Regulations All waste materials generated by any work under this contract performed on a Government installation shall be handled, transported, stored, recycled, and disposed of by the Contractor and by his/her subcontractors at any time in accordance with these specifications, all applicable Federal, state, or local laws, ordinances, regulations, court orders, or other types of rules or rulings having the same effect of law. These include but are not limited to the Resource Conservation and Recovery Act (RCRA) (40 CFR 260-270); Federal Water Pollution Control Act, as amended (33 USC Sec 1251 ET SEQ); The Clean Air Act, as amended (42 USC Sec 1857 ET SEQ); The Endangered Species Act, as amended (16 USC Sec 1531, ET SEQ); The Toxic Substances Control Act, as amended (15 USC Sec 2601, ET SEQ); The Solid Waste Disposal Act, as amended (42 USC 6901 ET SEQ); the Archaeological and Historic Preservation Act, as amended (16 USC Sec 469, ET SEQ), and the Virginia Solid Waste Management Regulations (9VAC 20-80).

The Contractor shall collect all solid wastes generated during the performance of the contract in a container/area provided by the Contractor and approved by the Contracting Officer. The Contractor shall provide appropriate containers for the collection and segregation of solid wastes, recyclables, and C&D debris generated directly and indirectly by work under this Contract. The Contractor is prohibited from using base dumpsters or other government owned/leased waste receptacles for the disposal of any solid wastes. All solid wastes shall be reclaimed, recycled, or disposed of prior to completion of work on LAFB.

As proof of proper disposition of solid wastes, the Contractor shall provide legible weight receipts for solid waste disposed and materials recycled bearing the name, address, and phone number of the receiving facilities for every load of materials delivered. The weight ticket shall detail the type of material, weight of the material in pounds or tons, the date of the transaction, and a signature from a representative of the receiving facility. Receipts shall be submitted to the Contracting Officer within ten (10) calendar days after the transaction.

Under no circumstances will any solid waste or hazardous materials be left at LAFB at the end of the project. Before the project is turned over to the government, the Contractor will remove all solid wastes and hazardous materials from the installation. Those items include but are not limited to dirt piles, concrete piles, asphalt piles, and rubbish piles. No materials will be left for the future use of the government UNLESS instructed to do so in writing by the government. If it is determined that the Contractor left materials behind, services may be terminated and/or a penalty payment to include the cost of disposal of the material by the government may be withheld from the project payment.

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NOTE: Hazardous materials are different from hazardous wastes so be careful not to confuse the two. For hazardous wastes, they will not be removed from the installation without the 633 CES Hazardous Waste Managers signing the Hazardous Waste Manifest. The LAFB Hazardous Waste Managers can be contacted at 757-764-1132/1133 if needed.

1.1.1.2. CONSTRUCTION/DEMOLITION DEBRIS DIVERSION:

As good stewards of the environment, the government is committed to diverting its waste away from landfills to the greatest extent possible. This can be done through recycling, reusing (when directed by the government), and donating construction and demolition debris materials. The Contractor shall recycle all construction/demolition debris to the maximum extent possible. The Contractor shall make every effort to recycle materials such as but not limited to concrete (including concrete with rebar), brick, asphalt, all metals, wood, roofing materials, wallboard, ceiling tiles, etc. With prior coordination through the CO and 633 CES/CEA, the Contractor may take scrap metals to the Langley AFB scrap metal yard for recycling. The following are some suggested local sites for recycling construction and demolition debris:

Local Sources of Recycling				
Company	Address	City	Phone	Acceptable Items
Tidewater Fibre	5602 Chestnut Ave	Newport News	247-5766	paper, cardboard, plastics, aluminum, glass, tin cans
Old Dominion Recycling	1618 W. Pembroke Ave.	Hampton	723-2942	Aluminum, copper, steel, iron, metals, paper, tires
Butler Paper	324 Newport St	Suffolk	539-2351	Industrial & Commercial Paper Recycling
Dubin Metals	2409 Bowdens Ferry Rd	Norfolk	622-3970	Scrap Metals, Copper, Brass, Batteries, Radiators, Aluminum
Gutterman Iron & Metal	1206 E. Brambleton Ave.	Norfolk	627-1095	Scrap Brass, Copper & Aluminum
Sims Metal	2116 George Washington Memorial Hwy	Tabb	599-4940	Steel, aluminum, brass, copper, stainless steel, radiators
Waterway Marine Terminal	1401 Precon Drive	Chesapeake	333-3427	all C & D materials i.e. concrete, concrete w/rebar, lumber, asphalt
Waterway Materials Corp	1401 Precon Drive	Chesapeake	545-0004	Concrete, concrete w/rebar, brick, block, asphalt
K.F. Wilson	2972 N. Armistead Ave	Hampton	865-7182	all C & D materials i.e. concrete, concrete w/rebar, lumber, asphalt
CrushCon Aggregates	100 North Park Lane	Hampton	723-1131	Concrete, concrete w/rebar

SECTION 01 12 00 – ASSET MANAGEMENT SPECIAL CONDITIONS

1.1.1.2.1 RECYCLING AND DISPOSAL REPORTING: The Contractor shall report on a quarterly basis the tonnage of the items recycled and the amounts disposed of by landfill and amounts disposed of by regular or waste-to-energy incineration to the Project Manager, the Contracting Officer, and 633 CES Asset Management Flight (633 CES/CEA) by the 5th day of each quarter (Jan, Apr, Jul, Oct) during the period of performance. This report will be for the previous quarter. The report shall list the title of the project, the project number, the Contractor's company name and point-of-contact, phone number, the type items (i.e. concrete, concrete with rebar, asphalt, brick, scrap metals, wood, wallboard, etc) and the tonnage of those items recycled. For all items that could not be recycled, the Contractor will provide a brief reason as to why the items could not be recycled.

For items disposed of, one total tonnage can be given for items landfilled and one total tonnage for items incinerated (specify waste incinerator or waste-to-energy incinerator) instead of reporting disposal figures for the various items. For items that cannot be accurately measured, estimates will be sufficient. Use the form at Attachment 1 (Construction/Demolition Debris Recycling and Reporting) to report this information to the Contracting Officer, Project Manager, and to 633 CES/CEAN.

To send it to 633 CES/CEAN, email it to Carmichael.Patton@langley.af.mil or mail it to:

633 CES/CEAN
Attn: Pollution Prevention Mgr
Bldg 328, Room 253
37 Sweeney Blvd
Langley AFB VA 23665

1.1.1.3 Contain Loose Debris. Loose debris on trucks leaving the site shall be loaded in a manner that shall prevent dropping of materials on streets and conform to local ordinances/laws. Fasten a suitable cover, such as a tarpaulin, over the load before entering surrounding streets.

1.1.1.4 Trip Tickets. Contractor shall submit all trip tickets from the landfill facility, incinerators, and recycling companies to show all debris is being landfilled, incinerated, or recycled in accordance with all Federal requirements and in an approved location. These trip tickets will be submitted to the Contracting Officer who will in turn give them to the Project Manager.

1.1.2. PETROLEUM CONTAMINATED WASTE:

1.1.2.1. Contaminated Absorbents. All petroleum spills must be cleaned up using absorbent materials. Spills caused by the Contractor will be the Contractor's responsibility to containerize and dispose of the contaminated absorbent material. Spills caused by the government will be the responsibility of the government. Contact the base hazardous waste Contractor, Chugach at 225-5808 or 225-5809 to arrange for pick-up.

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1.1.2.2. Waste Soil. Suspect soil must be tested to determine if it contains any contaminants prior to relocating it. Testing and disposal of soil shall follow Virginia Solid Waste Management Regulations 9VAC-20-80-700 (soil contaminated with petroleum products). Testing shall include: Total Petroleum Hydrocarbon (TPH), Total Organic Halogens (TOX), Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX), and Toxicity Characteristic Leaching Procedures (TCLP). If test results determine “other than clean”, the material will have to be transported to an appropriate landfill or processing center based on the contaminants identified. Contaminated soils, in sludge or slurry form, shall be containerized and managed as either hazardous waste or non-regulated waste, depending on what contaminate was spilled. The containerized contaminated soil shall be the responsibility of the Contractor to dispose of such. CEA must review the sample results and sign all hazardous/non hazardous waste manifests prior to disposal. Contact 633 CES/CEANC Hazardous Waste Program Managers for additional information.

NOTE: UNDER NO CIRCUMSTANCES will soil, clean or contaminated, from Langley AFB be delivered to or donated to off-base sources (other than an appropriate landfill or processing center based on the contaminants identified) for use. Soils donated to off-base entities for use will be the sole liability and responsibility of the Contractor.

1.1.3. UNIVERSAL WASTE:

Not Used

1.1.4. HAZARDOUS WASTE.

1.1.4.1. SITE MANAGEMENT. All material containers must be closed when not in use. Materials are to be covered as protection from weather. Each container is to be properly labeled. Do not store hazardous materials near storm drains. Upon completion of this project the Contractor shall remove all hazardous materials and hazardous waste (for associated manifest requirements see paragraph 1.1.4.2.)

1.1.4.2. MANIFESTS. 633 CES/CEANC will review all lab analysis or MSDS of wastes prior to signing manifests. All hazardous waste manifests must be signed by 633 CES/CEANC prior to removal of such waste from the base. The generator copy of the manifest must be returned to 633 CES/CEANC, 37 Sweeney Blvd, LAFB VA 23665.

1.2 FUEL, SEWAGE, AND OTHER SPILLS: In the event of a fuel, sewage, and other toxic spillage during the performance of this contract, the Contractor shall be responsible for its containment, clean up, and related disposal costs and will notify 633 CES/CEANC immediately. The operator shall have sufficient spill response supplies readily available on the pumping vehicle and/or at the site to contain any spillage. In the event of a Contractor-related release, the Contractor shall immediately notify the Asset Management Office and the Contracting Officer and take appropriate actions to correct its cause and prevent future occurrences. If the federal, state, or local authorities assess any monetary fine, penalty, or assessment related to the release of any substance by the Contractor, his/her employees, or agents during the performance of this contract, the Contractor shall be solely liable for its payment, authorizes the United States Air

SECTION 01 12 00 – ASSET MANAGEMENT SPECIAL CONDITIONS

Force to withhold such from payment and otherwise indemnify and hold the United States Air Force harmless.

1.3 ASBESTOS OR LEAD BASED PAINT

LBP and Asbestos has been abated.

1.4 AIR QUALITY

1.4.1. VOLATILE ORGANIC COMPOUNDS: All coatings and solvents used in the performance of this contract shall meet the required performance specifications and shall not exceed the volatile organic compound limits of the Air Pollution Control Districts where they are used.

1.4.2. DUST: Mitigation of fugitive dust emissions shall be accomplished in accordance with 9 VAC5-40-90, Standards for Fugitive Dust/Emissions.

1.4.3. OZONE DEPLETING SUSTANCES (ODS):

Not Used

1.4.6. MOLD:

Not Used

1.5. HAZARDOUS MATERIALS MANAGEMENT

1.5.1. Hazardous Materials Usage and Reporting: In compliance with AFI 32-7086 dated 1 Nov 2004 and AFI 32-7086 ACC Sup 1, all Contractors are required to report the usage of all hazardous materials to the government for all projects and contracts including service contracts executed on LAFB. In accordance with FAR Clause 52.223-3, each offeror (Contractor) must provide the Contracting Office with a list of proposed HAZMAT that it plans to use on the installation during the performance of the contract. In accordance with AFFARS Clause 5352.223-9303, Contractors must obtain Air Force authorization prior to using HAZMAT on an Air Force installation, and must report usage data to the HAZMART.

Hazardous materials are any substance defined by OSHA as a hazardous substance requiring a Material Safety Data Sheet (MSDS). Hazardous materials that need to be reported include but are not limited to chemicals, paints, thinners, sealing compounds, strippers, glues, solvents, all petroleum products including oils, hydraulic fluids, and fuels stored on-site (fuels in vehicles are exempt), pesticides, adhesives, acids, flammables, corrosives, oxidizers, compressed gases (such as but not limited to oxygen, acetylene, propane, flammable and non-flammable gases), all aerosols, and all materials containing hazardous substances.

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The Contractor shall request the proposed usage of all Hazardous Materials by completing the “Contractor Hazardous Material Worksheet” at Attachment 2 (Contractor Hazardous Material Worksheet) for each hazardous material and shall submit a copy of the Material Safety Data Sheet (MSDS) for each item to the Contracting Officer (CO) prior to bringing the items on the installation. The Contractor shall submit to the CO the information for each item within 10 days after award of the contract or project and/or not less than fourteen calendar days prior to bringing the items on the installation. For short notice contracts or projects, the Contractor will submit this information to the CO as soon as possible. An electronic version of the Contractor Hazardous Material Worksheet can be obtained through the Project Manager or 633 CES/CEAN.

The CO will immediately provide this information to the Project Manager who will in turn provide it to 633 CES/CEAN immediately.

After the project starts, monthly usage information will be provided to the CO who will in turn provide this information to the Project Manager who will in turn provide it to 633 CES/CEAN. Attachment 3 (Monthly Report for HAZMAT) of this section will be used to report monthly usage. For contracts/projects exceeding six months, this form is required to be filled out on a monthly basis. For contracts less than six months, this form is required at the beginning and at the completion of work.

If there are any questions on how to fill out the Contractor Hazardous Material Worksheet or the monthly report, contact the LAFB HAZMART at 757-764-3837 Monday thru Friday between the hours of 0730-1630 or visit them at:

633 LRS/HAZMART
Bldg 330
23 Sweeney Blvd
Langley AFB VA 23665

1.5.2. Hazardous Materials Management Process (HMMP): The LAFB HMMP team will meet on a weekly basis or an as-needed basis to review the Contractor Hazardous Material Worksheets and MSDSs to ensure there are no concerns with the chemicals being used and/or stored on the installation. If there are concerns about any chemicals and if it is determined that the Contractor plans to use an extremely hazardous chemical on LAFB, the HMMP team will notify the Project Manager and the Contracting Officer (CO) who will in-turn notify the Contractor of LAFB's concern. The Contractor will not bring any extremely hazardous chemicals on LAFB or any other chemicals that the HMMP team determines cannot be used on Langley. The HMMP team will also notify the Project Manager if all hazardous materials are authorized for use.

If the Contractor requires additional hazardous materials not previously submitted for approval, they shall submit the request as stated above seven days prior to bringing the item on the base.

NOTE: If it is determined at any time that hazardous materials are on site that were not reported in advance, the CO will be notified and the project can be stopped until the materials are submitted as stated above.

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1.5.3. Hazardous Material Storage: Hazardous materials will be managed properly at all times while on LAFB. This means containers will be in good condition and will be properly labeled with the contents and hazard class (flammable, corrosive, oxidizer, etc) at all times. Containers will be closed at all times when not in use, hazardous materials will be kept under cover to protect them from the elements and to prevent stormwater runoff contamination, and tanks and 55-gallon liquid drums will have secondary containment. Gas cylinders will be maintained in the upright position with caps on and will be secured with chains and locks to prevent tampering and to prevent them from falling over. Gas storage areas will have signs indicating what type gases are stored in the area (ie flammable, oxidizer, non-flammable, etc). NO SMOKING signs will be posted in all hazardous materials storage areas. In addition, all hazardous materials will be segregated in storage according to compatibility (ie flammables will not be stored with corrosives, corrosives will not be stored with oxidizers, flammable gases will not be stored with flammable liquids, etc). LAFB is subject to inspections at any time from outside agencies (EPA, Virginia Dept of Asset Management Quality, and OSHA) and any violations by the Contractor will be the responsibility of the Contractor and any fines associated with the violations will be resolved at the Contractor's expense.

1.6 USE OF RECYCLED-CONTENT PRODUCTS: (GREEN PROCUREMENT):

Whenever the potential for use of non-recycled content products exists during the construction stage of the project, the Contractor shall incorporate in this project, as a substitute, recycled-content products that are listed and identified in the Asset Management Protection Agency (EPA) Comprehensive Procurement Guidelines (CPG) for recycled-content products. The Contractor shall use recycled-content products as required by EPA and other governmental agencies and Federal Acquisition Regulation (FAR) clauses.

It is mandated by Executive Order 13101 (Greening the Government through Waste Prevention, Recycling, and Federal Acquisition) and Section 6002 of the Resource Conservation and Recovery Act (RCRA) that the Federal Government use recycled-content products in the construction and/or renovation of facilities. It is the intent of the Government to comply with the Asset Management Protection Agency (EPA) requirement 100% of the time and use as many of the applicable listed recycled-content products as feasible and economically practical. The Contractor shall consider this a standard requirement for all aspects of the project construction.

The recycled-content products listed in the CPG can be found in the EPA website at www.epa.gov/cpg/products.htm. These products are also listed at Attachment 4 (Contract Submittal and Contractor Reporting Form). This list is subject to change at any time so it is the Contractor's responsibility to be aware of any updates or additions.

Such products shall also comply with the requirements of the EPA Recovered Materials Advisory Notice (RMAN). The RMANs recommend recycled-content ranges for CPG products based on current information on commercially available recycled-content products. The recommended recovered materials content percentage can be obtained by clicking on the product on the website.

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1.8.1. Green Procurement Forms Before starting the project, the Contractor shall complete Attachment 4 indicating the items he plans to use. The Contractor will provide this to the Contracting Officer and the Project Manager. Then during the accomplishment of the project construction, the Contractor shall complete the form again. At this time, the Contractor shall indicate the use and non-use of products that are contained in the CPG and will list the recycled-content percentage for the applicable item. In each instance where a recycled-content construction product is not used, the Contractor shall provide to the Contracting Officer (or his/her designated representative) and the Project Manager a completed Exemption Form, Attachment 5 (Recovered Materials Determination Form).

The Contractor shall complete this form for all items for which he or she desires an exemption from the Green Procurement Program for Recovered Materials that are being procured. Exemptions can only be taken if (1) the item is not available within a reasonable period of time (2) item fails to meet a performance standard in the specifications and (3) the item was only available at an unreasonable price i.e., the recycled-content product costs more than the non-recycled content product. The fourth reason on the Recovered Materials Determination Form, (4) the item is not available from 2 or more sources, does not apply to construction/renovation Contractors as the Government will not specify where you can get your materials from. Specific reasons why an exemption is taken will be specified on the form and documentation supporting this reason will be provided and attached.

The Contractor will sign the form as the “Procurement Originator” and the completed form will also be signed by the 1 CES Programs Flight Chief or Deputy Flight Chief, 633 CES/CEP. These forms will be kept in the project folder indefinitely.

1.11 Discrepancies. In case of a conflict or discrepancy between Asset Management regulations or laws and the contract specifications, the Contractor shall immediately submit the matter in writing to the Contracting Officer for a determination. Without such determination any actions taken shall be at the Contractor’s own risk and expense.

References:

1. EPA Region III Risk Based Concentration (RBC) table. As this table is updated every 6 months, analysis is to be determined by the table current at the time of testing. This table can be found at <http://www.epa.gov/reg3hwmd/risk/human>.
2. Background Chemical Data Document for Langley AFB, 21 Oct 97, Table 7-1. The UTL (Upper Tolerance Limit) Summary Table outlines the Langley AFB’s background data set. This table can be requested through 1 CES/CEA.

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ATTACHMENT 1

CONSTRUCTION/DEMOLITION DEBRIS RECYCLING AND REPORTING

As stewards of the environment and because of the Air Force goals of diverting greater than 40% of its waste away from landfills, Contractors shall recycle C&D debris to the maximum extent possible. There are many sources in the local area that can recycle C&D. A list of sources can be found in the "Special Conditions" portion of Langley construction contracts. If you need further assistance finding sources, contact the 1 CES/CEA Pollution Prevention Manager at 757-764-3987. Langley AFB must report recycling metrics to higher Headquarters quarterly. Therefore, complete the form below for each project on Langley AFB and submit a copy to the 1 CONS Contracting officer, the 1 CES/CEP Project Manager, and 1 CES/CEAN (Pollution Prevention Program Manager), by the 5th day of each quarter (5 Apr, 5 July, 5 Oct, and 5 Jan) for the previous three month period for the duration of the project.

PROJECT NUMBER AND TITLE: _____

PROJECT LOCATION (BLDG # AND STREET ADDRESS): _____

CONTRACTOR NAME: _____

CONTRACTOR ADDRESS/PHONE NUMBER: _____

TYPE ITEMS RECYCLED:

- | | |
|------------------------------|---------------------------|
| _____ Concrete without rebar | _____ Concrete with rebar |
| _____ Scrap Metals | _____ Wood |
| _____ Roofing Materials | _____ Brick |
| _____ Asphalt | |
| _____ Other: Specify _____ | |

TONNAGE OF ITEMS RECYCLED: _____ TONS

TYPE ITEMS NOT RECYCLED:

- | | |
|------------------------------|---------------------------|
| _____ Concrete without rebar | _____ Concrete with rebar |
| _____ Scrap Metals | _____ Wood |
| _____ Roofing Materials | _____ Brick |
| _____ Asphalt | |
| _____ Other: Specify _____ | |

CONTINUED ON THE BACK
C&D DEBRIS RECYCLING AND REPORTING FORM (CONT'D)

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REASONS ITEMS WERE NOT RECYCLED:

_____ No market for the items

_____ No local vendors to recycle the materials

_____ Not economically feasible: Specify: _____

_____ Other: Specify: _____

PROVIDE NAME OF COMPANY, POINT-OF-CONTACT, AND PHONE NUMBER OF SOURCE BY WHICH RECYCLING AN ITEM(S) WERE ATTEMPTED:

Company Name: _____

Point of Contact: _____

Phone Number: _____

C&D ITEMS DISPOSED OF BY LANDFILL: _____ TONS

C&D ITEMS DISPOSED OF THROUGH REGULAR INCINERATION: _____ TONS

ITEMS DISPOSED OF BY WASTE-TO-ENERGY INCINERATION: _____ TONS

CONTRACTOR SIGNATURE

DATE

NOTE: ELECTRONIC SIGNATURE ACCEPTABLE

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ATTACHMENT 2

Contractor Hazardous Material Worksheet

**FOR ASSISTANCE WITH THIS WORKSHEET CONTACT LAFB HAZMART AT 757-764-3837
CORRESPONDING MATERIAL SAFETY DATA SHEET MUST BE ATTACHED.**

CONTRACTOR INFORMATION

Prime Contractor name:
Subcontractor name (if applicable):
Project Manager POC name:
Contracting Office POC:
Contract #:
Project #:
Project title:
Project date range: through (mm-dd-yyyy)

MATERIAL INFORMATION

Part number (from MSDS) or National Stock Number:
Noun/Common Name:
Type of Container (ex - can, bucket, box):
Size (ex -1 gal, 5 gal, 1qt, 500 mL, tank):
Unit of Issue (ex - each, box/12, case/24):

DRAW INFORMATION

Estimated amount of this material to be used for duration of contract*:

** At project completion, submittal summarizing actual usage is required*

TASK INFORMATION

Task Description (describe what it is used for):

LOCATION INFORMATION

Will the process be performed in: (check all applicable locations)

A facility, aircraft, equipment, manhole, other structure? Outdoors?

Is material going to be used in an area occupied by USAF military or civilians? Yes No

What is the storage location of unused materials?

Will respirators be worn? Yes No

Will a ventilation system be used? Yes No

REMARKS (provide any additional comments or information)

Contractor Point of Contact

Requestor's Name:

Title:

Address:

Phone Number:

Date:

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To Be Completed by USAF Personnel Only

EMIS Shop Code: _____

BEE: ____ Recommend Approval ____ Recommend Disapproval: Comments:

SE: ____ Recommend Approval ____ Recommend Disapproval Comments:

CEA: ____ Approve ____ Disapprove Comments:

HAZMART: ____ Concur ____ Nonconcur Comments:

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ATTACHMENT 4

CONTRACT SUBMITTAL AND CONTRACTOR REPORTING FORM

Comprehensive Procurement Guidelines

(This chart is not intended to replace the EPA guidelines found at <http://www.epa.gov/cpg/products.htm>). It is the Contractor's responsibility to stay apprised of any new additions to these guidelines.)

Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	If marked w/ an "X", item is applicable	Purchased with no recycled content	Purchased with recycled content	Percent of recycled content
<u>VEHICULAR PRODUCTS</u>				
Engine coolants - antifreeze				
Rebuilt vehicular parts				
Re-refined lubricating oils - including motor oil				
Retread tires				
<u>CONSTRUCTION PRODUCTS</u>				
Building insulation products				
Carpet (Polyester)				
Carpet cushion				
Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica fume				
Consolidated and reprocessed latex paint				
Floor tiles				
Flowable fill				

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Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	If marked w/ an "X", item is applicable	Purchased with no recycled content	Purchased with recycled content	Percent of recycled content
Laminated paperboard				
Modular threshold ramps				
Nonpressure pipe				
Patio blocks				
Railroad grade crossing surfaces				
Roofing materials				
Shower and restroom dividers and partitions				
Structural fiberboard				
<u>LANDSCAPING PRODUCTS</u>				
Compost made from yard trimmings or food waste				
Garden and soaker hoses				
Hydraulic mulch				
Lawn and garden edging				
Plastic lumber landscaping timbers and posts				
<u>NON-PAPER OFFICE PRODUCTS</u>				
Binders				

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Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	If marked w/ an "X", item is applicable	Purchased with no recycled content	Purchased with recycled content	Percent of recycled content
<u>NON-PAPER-OFFICE PRODUCTS</u> (cont)				
Clipboards				
Clip Portfolios				
File folders				
Presentation Folders				
Office Furniture				
Office recycling containers				
Office waste receptacles				
Plastic desktop accessories				
Plastic envelopes				
Plastic trash bags				
Printer ribbons				
Toner cartridges				
<u>PAPER AND PAPER PRODUCTS</u>				
Commercial/industrial sanitary tissue products				
Miscellaneous papers				

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Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	If marked w/ an "X", item is applicable	Purchased with no recycled content	Purchased with recycled content	Percent of recycled content
Newsprint				
Paperboard and packaging products				
Printing and writing papers				
<u>PARK and RECREATION PRODUCTS</u>				
Park benches and picnic tables				
Plastic fencing				
Playground equipment				
Playground surfaces				
Running tracks				
<u>TRANSPORTATION PRODUCTS</u>				
Channelizers				
Delineators				
Flexible delineators				
Parking stops				
Traffic barricades				
Traffic cones				

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Categories and Designated Items (Note: This table includes proposed CPG items as well as items designated final.)	If marked w/ an "X", item is applicable	Purchased with no recycled content	Purchased with recycled content	Percent of recycled content
<u>MISCELLANEOUS PRODUCTS</u>				
Awards and plaques				
Bike Racks				
Blasting grit				
Industrial drums				
Manual-grade strapping				
Mats				
Pallets				
Signage				
Sorbents				

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ATTACHMENT 5

RECOVERED MATERIALS DETERMINATION FORM

This form is to be completed by the procurement originator for all purchases requesting an exemption from the Affirmative Procurement Program for Recovered Materials being procured. For questions on whether the product is “EPA designated” or what the required recycled content is, refer to the product descriptions on EPA’s website at <http://www.epa.gov/cpg/products.htm> . This form is not required for construction item purchases less than \$2,000, or for other purchases less than \$2,500.

Procurement Request/Project No. _____

EPA Designated Eight Product Category Items

Category 1 Paper and Paper Products

Commercial/industrial sanitary tissue products Paperboard/packing products Printing and writing papers
 Miscellaneous papers Newsprint

Category 2 Non-Paper Office Products

Binders (paper, plastic) Plastic trash bags Plastic presentation folders
 Plastic envelopes Office waste receptacles Plastic clip portfolios
 Office recycling containers Plastic file folders Solid plastic binders
 Office furniture Plastic desktop accessories Printer ribbons
 Plastic clipboards Toner Cartridges

Category 3 Park and Recreation Products

Park benches and picnic tables Running tracks Playground equipment
 Playground surfaces Plastic fencing

Category 4 Transportation Products

Traffic barricades Delineators Traffic Cones
 Parking Stops Flexible delineators Channelizers

Category 5 Vehicular Products

Engine Coolants Retread tires Re-refined lubricating oils Rebuilt vehicular parts

Category 6 Landscaping Products

Garden and soaker hoses Hydraulic mulch Landscaping timbers and posts (plastic lumber)
 Yard trimmings compost Lawn and garden edging Food waste compost

Category 7 Construction Products

Consolidated and reprocessed latex paint Railroad grade crossing and surfaces Structural fiberboard
 Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica fume Building insulation Carpet (polyester)
 Roofing materials Shower and restroom dividers Carpet cushion
 Laminated paperboard Floor tiles
 Modular threshold ramps Patio blocks
 Nonpressure pipe Flowable fill

Category 8 Miscellaneous Products

Manual-grade strapping Mats Pallets Industrial drums
 Bike racks Awards and plaques Signage
 Blasting grit Sorbents

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SECTION 01 12 00 – ASSET MANAGEMENT SPECIAL CONDITIONS

EXEMPTION CERTIFICATION

___ The following EPA designated guideline item is included in the specifications for the project however, compliance with EPA standards is not attainable.

Item: _____

I have determined that the EPA guidelines were considered and determined inapplicable, based on the following:

___ Item is not available within a reasonable period of time.

(Need date: _____ Date available: _____)

___ Item fails to meet a performance standard in the specifications.

Specifically, _____

___ Item was only available at an unreasonable price (i.e., recycled item cost more than non-recycled item).

Price of recycled item: _____

Price of non-recycled item: _____

___ Item is not available from 2 or more sources.

**Market research was performed by calling ___ (insert number)
vendors, but only _____ (enter name) was able to supply the item.**

This determination is made in accordance with FAR 23.405(c).

Procurement Originator/Contractor

Date

Signature of GPC Approving Official (if GPC used)
or Project Manager/Supervisor/Flight Chief or Deputy for all other type purchases

Date

SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
02/10

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

- ASSE/SAFE A10.32 (2004) Fall Protection
- ASSE/SAFE A10.34 (2001; R 2005) Protection of the Public on or Adjacent to Construction Sites
- ASSE/SAFE Z359.1 (2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

ASME INTERNATIONAL (ASME)

- ASME B30.22 (2005) Articulating Boom Cranes
- ASME B30.3 (2009) Construction Tower Cranes
- ASME B30.5 (2007) Mobile and Locomotive Cranes
- ASME B30.8 (2004) Floating Cranes and Floating Derricks

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

- NASA NPG 8621.1 (2004a) NASA Mishap Reporting, Investigating and Record Keeping Policy
- NASA NPG 8715.3 (2004) NASA Safety Manual
- NASA NSS 1740.12 (1993) NASA Safety Standard For Explosives, Propellants and Pyrotechnics

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 10 (2010) Standard for Portable Fire Extinguishers
- NFPA 241 (2009) Standard for Safeguarding Construction, Alteration, and Demolition Operations
- NFPA 306 (2009) Standard for Control of Gas Hazards in Vessels

- NFPA 51B (2009) Standard for Fire Prevention during Welding, Cutting, and Other Hot Work
- NFPA 70 (2008; AMD 1 2008) National Electrical Code - 2008 Edition
- NFPA 70E (2009; Errata 2009) Standard for Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

- EM 385-1-1 (2008) Safety and Health Requirements Manual

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

- 10 CFR 20 Standards for Protection Against Radiation
- 29 CFR 1910 Occupational Safety and Health Standards
- 29 CFR 1910.146 Permit-required Confined Spaces
- 29 CFR 1915 Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
- 29 CFR 1919 Gear Certification
- 29 CFR 1926 Safety and Health Regulations for Construction
- 29 CFR 1926.500 Fall Protection

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

- Accident Prevention Plan
- Activity Hazard Analysis

SD-06 Test Reports

Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports

SD-07 Certificates

License Certificates

Contractor Safety Self-Evaluation Checklist

Submit one copy of each permit/certificate attached to each Daily Production Report.

Machinery & Mechanized Equipment Certification Form

1.3 DEFINITIONS

- a. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.
- b. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.
- c. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.
- d. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).
- e. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.
- f. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:
 - (1) Death, regardless of the time between the injury and death, or the length of the illness;
 - (2) Days away from work (any time lost after day of injury/illness onset);
 - (3) Restricted work;
 - (4) Transfer to another job;
 - (5) Medical treatment beyond first aid;
 - (6) Loss of consciousness; or

(7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

- g. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

1.4 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST

Contracting Officer will provide a "Contractor Safety Self-Evaluation checklist" to the Contractor at the pre-construction conference. The checklist will be completed monthly by the Contractor and submitted with each request for payment voucher. Additionally, monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms. An acceptable score of 90 or greater is required. Failure to submit the completed safety self-evaluation checklist or achieve a score of at least 90, will result in a retention of up to 10 percent of the voucher.

1.5 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent addition of USACE EM 385-1-1, and the following applicable federal, state, and local, laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

The contractor shall provide a Safety oversight team that includes a minimum of one (1) Competent Person at each project site to function as the Safety and Health Officer (SSHO). The SSHO shall be at the work site at all times, unless specified differently in the contract, to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor, and their training, experience, and qualifications shall be as required by EM 385-1-1 paragraph 01.A.17 and all associated sub-paragraphs. A Competent Person shall be provided for all of the hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and shall be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. The credentials of the Competent Persons(s) shall be approved by the Contracting Officer in consultation with the Safety Office.

The Contractor Quality Control (QC) person [cannot be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties.

1.6.1.2 Construction Safety Hazard Awareness Training

The training requirements for the Site Safety and Health Officer (SSHO) must include the successful completion of the course entitled "Construction Safety Hazard Awareness Training for Contractors.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)

- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily [production][quality control] report.
- b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors.
- c. Maintain applicable safety reference material on the job site.
- d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- e. Implement and enforce accepted APPS and AHAs.
- f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board.
- g. Ensure sub-contractor compliance with safety and health requirements.

Failure to perform the above duties will result in dismissal of the superintendent, QC Manager, and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

- h. Maintain a list of hazardous chemicals on site and their material safety data sheets.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.
- d. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

1.6.3.2 Safety Meetings

Conduct and document meetings as required by EM 385-1-1. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the Contractors' daily [production] [quality control] report.

1.7 ACCIDENT PREVENTION PLAN (APP)

Use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan" and show compliance with NASA NPG 8715.3. Specific requirements for some of the APP elements are described below. The APP shall be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and made site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety

and health officer, the Contractor Quality control Manager, and any designated CSP and/or CIH.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.

Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and quality control manager. Should any severe hazard exposure, i.e. imminent danger, become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE/SAFE A10.34,) and the environment.

Copies of the accepted plan will be maintained at the Contracting Officer's office and at the job site. Continuously reviewed and amended the APP, as necessary, throughout the life of the contract. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered.

1.7.1 EM 385-1-1 Contents

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required:

- a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated site safety and health officer and other competent and qualified personnel to be used such as CSPs, CIHs, STSs, CHSTs. Specify the duties of each position.
- b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.
- e. Fall Protection and Prevention (FP&P) Program Documentation. The program documentation shall be site specific and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m(6 feet). A qualified person for fall protection shall prepare and sign the program documentation. Include fall protection and prevention systems,

equipment and methods employed for every phase of work, responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Revise the Fall Protection and Prevention Program documentation [every six months] for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Program documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Program documentation in the Accident Prevention Plan (APP).

g. Lead Compliance Plan. The safety and health aspects of lead work, prepared in accordance with Section 02 83 13.00 20 LEAD IN CONSTRUCTION.]

k. Site Demolition Plan. The safety and health aspects prepared in accordance with Section 02 41 00 DEMOLITION and referenced sources. Include engineering survey as applicable.

l. Excavation Plan. The safety and health aspects prepared in accordance with Section 31 00 00 EARTHWORK.

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, Section 1. Submit the AHA for review at least 15 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

Develop the activity hazard analyses using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.10 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.11 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.12 REPORTS

1.12.1 Accident Reports

- a. Conduct an accident investigation for recordable injuries and illnesses, as defined in 1.3.h and property damage accidents resulting in at least \$2,000 in damages, to establish the root cause(s) of the accident, complete USACE Accident Report Form 3394 and provide the report to the Contracting Officer within 2 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

1.12.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident in accordance with NASA NPG 8621.1. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.15 FACILITY OCCUPANCY CLOSURE

Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer.

1.17 HIGH NOISE LEVEL PROTECTION

Operations performed by the Contractor that involve the use of equipment with output of high noise levels (jackhammers, air compressors, and explosive-actuated devices) shall be scheduled during the hours 0700 to 1700. Use of any such equipment shall be approved in writing by the Contracting Officer prior to commencement of work.

1.18 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must:

- a. Secure outside equipment and materials and place materials that could be damaged in protected areas.
- b. Check surrounding area, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- c. Ensure that temporary erosion controls are adequate.

PART 2 PRODUCTS

Not used.

2.1 FALL PROTECTION ANCHORAGE

Leave in place fall protection anchorage, conforming to ASSE/SAFE Z359.1, installed under the supervision of a qualified person in fall protection, for continued customer use and so identified by signage stating the capacity of the anchorage (strength and number of persons who may be tied-off to it at any one time).

PART 3 EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

Comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, Federal and/or State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

3.1.1 Hazardous Material Use

Each hazardous material must receive approval from the Contracting Office or their designated representative prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials. The Radiation Safety Officer (RSO) must be notified prior to excepted items of radioactive material and devices being brought on base.

3.1.3 Unforeseen Hazardous Material

If Unforeseen Hazardous Material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.4 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

Establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

3.4.1 Training

Institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with USACE EM 385-1-1, Section 21.B.

3.4.2 Fall Protection Equipment and Systems

Enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, Paragraphs 21.N through 21.N.04. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M, USACE EM 385-1-1 and ASSE/SAFE A10.32.

3.4.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ASSE/SAFE Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m(6 feet). The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.4.6 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1 and 29 CFR 1926 Subpart M.

3.4.7 Rescue and Evacuation Procedures

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

3.7 EQUIPMENT

3.7.1 Material Handling Equipment

- a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
- c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.7.2 Weight Handling Equipment

- a. Equip cranes and derricks as specified in [EM 385-1-1](#), section 16.
- b. Notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. [Prior to cranes entering federal activities, a Crane Access Permit must be obtained from the Contracting Officer. A copy of the permitting process will be provided at the Preconstruction Conference.] Contractor's operator shall remain with the crane during the spot check.
- c. Comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in [ASME B30.5](#)). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with [ASME B30.5](#) for mobile cranes, [ASME B30.22](#) for articulating boom cranes.
- e. Under no circumstance shall a Contractor make a lift at or above 90 percent of the cranes rated capacity in any configuration.

- f. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of USACE EM 385-1-1 Section 11 and ASME B30.5 or ASME B30.22 as applicable.
- g. Do not crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane.
- h. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- i. All employees must keep clear of loads about to be lifted and of suspended loads.
- j. Use cribbing when performing lifts on outriggers.
- k. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- l. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- m. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- n. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- o. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).
- p. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

3.7.3 Equipment and Mechanized Equipment

- a. Proof of qualifications for operator shall be kept on the project site for review.
- b. Manufacture specifications or owner's manual for the equipment shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

c. Submit a [Machinery & Mechanized Equipment Certification Form](#) for acceptance by the Contracting Officer prior to being placed into use. A copy of the certification form will be provided during the Pre-construction Conference.

3.7.4 USE OF EXPLOSIVES

Explosives shall not be used or brought to the project site.

3.8 EXCAVATIONS

Perform soil classification by a competent person in accordance with [29 CFR 1926](#).

3.8.1 Utility Locations

Prior to digging, the appropriate digging permit must be obtained. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract.

3.8.2 Utility Location Verification

The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within 2 feet of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility expose the utility by hand digging every 100 feet if parallel within 5 feet of the excavation.

3.8.3 Shoring Systems

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacturer tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on-site for review. Job-made shoring or shielding must have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

3.8.4 Trenching Machinery

Operate trenching machines with digging chain drives only when the spotters/laborers are in plain view of the operator. Provide operator and spotters/laborers training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating. Keep documentation of the training on file at the project site.

3.9 UTILITIES WITHIN CONCRETE SLABS

Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with station utility departments in addition to a private locating service. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

3.10 ELECTRICAL

3.10.1 Portable Extension Cords

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately removed from service all damaged extension cords. Portable extension cords shall meet the requirements of **NFPA 70E** and OSHA electrical standards.

-- End of Section --

SECTION 02 41 00

**DEMOLITION
10/06**

PART 1 GENERAL

1.1 REFERENCES

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

AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

ASSE/SAFE A10.6 (1990; R 1998) Safety Requirements for Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2003) Safety -- Safety and Health Requirements

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61 National Emission Standards for Hazardous Air Pollutants

40 CFR 82 Protection of Stratospheric Ozone

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. Remove rubbish and debris from the project site daily; do not allow accumulations on Government property. The work includes demolition and removal of resulting rubbish and debris. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.3 SUBMITTALS

The following shall be submitted in accordance with Section 01 11 00
SPECIAL CONDITIONS:

SD-07 Certificates

Demolition Plan;
Notifications;

A proposed salvage, demolition, and removal procedure submitted for approval before work is started.

SD-11 Closeout Submittals

Receipts

Receipts or bills of lading, as specified.

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ASSE/SAFE A10.6.

1.4.1 Notifications

1.4.1.1 General Requirements

Furnish timely notification of demolition projects to Federal, State, regional, and local authorities in accordance with 40 CFR 61, Subpart M. Notify the Regional Office of the United States Environmental Protection Agency (USEPA), State's environmental protection agency, and the Contracting Officer in writing 10 working days prior to the commencement of work in accordance with 40 CFR 61, Subpart M.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.

1.6 PROTECTION

1.6.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Anchor barricades in a manner to prevent displacement by wind. Notify the Contracting Officer prior to beginning such work.

1.6.2 Existing Conditions Documentation

Before beginning any demolition work, survey the work site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions.

1.6.3 Items to Remain in Place

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government. Repair or replace damaged items as approved by the Contracting Officer. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract. Do not overload structural elements or pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition, deconstruction, or removal work. Repairs, reinforcement, or structural replacement require approval by the Contracting Officer prior to performing such work.

1.6.4 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new fencing. Provide temporary shoring and bracing for support of fencing components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove snow, dust, dirt, and debris from work areas daily.

1.6.5 Trees

Protect trees within the project sites which might be damaged during demolition or deconstruction, and which are indicated to be left in place.

1.6.6 Utility Service (NOT USED)

1.6.7 Facilities

Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract.

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.8 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Items to be relocated which are damaged by the Contractor shall be repaired or replaced with new undamaged items as approved by the Contracting Officer.

1.10 REQUIRED DATA

Prepare a **Demolition Plan**. Include in the plan procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, and a detailed description of methods and equipment to be used for each operation and of the sequence of operations. Coordinate with Waste Management Plan. Provide procedures for safe conduct of the work in accordance with **EM 385-1-1**. Plan shall be approved by Contracting Officer prior to work beginning.

1.11 ENVIRONMENTAL PROTECTION

Comply with the Environmental Protection Agency requirements specified.

1.12 USE OF EXPLOSIVES

Use of explosives will not be permitted.

PART 2 PRODUCTS

2.1 FILL MATERIAL

Comply with excavating, backfilling, and compacting procedures for soils used as backfill material to fill voids, depressions or excavations resulting from demolition of the fence or the removal of vegetation and trees.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Inspect and evaluate existing structures on site for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, remanufacture, recycling, or other disposal, as specified. Materials shall be designated for reuse on site whenever possible.

3.1.1 Utilities and Related Equipment

3.1.1.1 General Requirements

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by the Contracting Officer. Do not interrupt existing utilities serving facilities occupied and used by the Government except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated.

3.1.1.2 Disconnecting Existing Utilities

Remove existing utilities as indicated and uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. When utility lines are encountered that are not indicated on the drawings, the Contracting Officer shall be notified prior to further work in that area. Remove meters and related equipment and deliver to a location on the station in accordance with instructions of the Contracting Officer.

3.1.3 Chain Link Fencing

Removal of chain link fencing and gates. Remove gates as whole units. Cut chain link fabric to 25 foot lengths and store in rolls off the ground.

3.1.4 Paving and Slabs

Remove concrete and asphaltic concrete paving and slabs in their entirety.

3.1.7 Concrete

Saw concrete along straight lines to a depth of a minimum 2 inch. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete. .]

3.1.9 Miscellaneous Metal

Scrap metal shall become the Contractor's property. Recycle scrap metal as part of demolition operation. Provide separate containers to collect scrap metal and transport to a scrap metal collection or recycling facility, in accordance with the Waste Management Plan.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

All materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the Contracting Officer to begin demolition and deconstruction. The Government will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.4 CLEANUP

Remove debris and rubbish from the job site on a periodic basis. Remove and transport debris and rubbish in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified in the Waste Management Plan. Storage of removed materials on the project site is prohibited.

3.5.2 Burning on Government Property

Burning of materials removed from demolished fence line and vegetation and tree cutting operations will not be permitted on Government property.

3.5.3 Removal from Government Property

Transport waste materials removed from demolished fence line, except waste soil, from Government property for legal disposal. Waste soil is to be spread evenly along the fence line.

--End of Section--

SECTION 31 11 00

CLEARING
08/08

PART 1 GENERAL

1.1 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-04 Samples

Tree wound paint
Herbicide

Samples in cans with manufacturer's label.

1.2 DELIVERY, STORAGE, AND HANDLING

Deliver materials to store at the site, and handle in a manner which will maintain the materials in their original manufactured or fabricated condition until ready for use.

PART 2 PRODUCTS

2.1 TREE WOUND PAINT

Bituminous based paint of standard manufacture specially formulated for tree wounds.

2.2 HERBICIDE

Comply with Federal Insecticide, Fungicide, and Rodenticide Act (Title 7 U.S.C. Section 136) for requirements on Contractor's licensing, certification and record keeping. Contact the command Pest Control Coordinator prior to starting work.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Roads and Walks

Keep roads and walks free of dirt and debris at all times.

3.1.2 Trees, Shrubs, and Existing Facilities

Protection shall be in accordance with Section 01 57 19.00 20, TEMPORARY ENVIRONMENTAL CONTROLS. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require.

3.1.3 Utility Lines

Protect existing utility lines from damage. Notify the Contracting Officer immediately of damage to or an encounter with an unknown existing utility line. The Contractor shall be responsible for the repairs of damage to existing utility lines. When utility lines which are to be removed are encountered within the area of operations, notify the Contracting Officer in ample time to minimize interruption of the service. Refer to Section 01 30 00, ADMINISTRATIVE REQUIREMENTS and Section 01 57 19.00 20, TEMPORARY ENVIRONMENTAL CONTROLS for additional utility protection.

3.2 CLEARING

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including downed timber, snags, brush, and rubbish occurring within the areas to be cleared. Trees, stumps, roots, brush, and other vegetation in areas to be cleared shall be cut off flush with or below the original ground surface, except such trees and vegetation as may be indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and shall be trimmed of all branches the heights indicated or directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-1/2 inches in diameter shall be painted with an approved tree-wound paint. Apply herbicide in accordance with the manufacturer's label to the top surface of stumps designated not to be removed.

3.3 TREE REMOVAL

Where indicated or directed, trees that are specified or designated for removal shall be removed from areas outside those areas designated for clearing. This work shall include the felling of such trees and their stumps are to be cut close enough to the ground so as not to interfere with fence repair and replacement work. Trees shall be disposed of as specified in paragraph DISPOSAL OF MATERIALS.

3.4 PRUNING

Prune and Trim trees designated to be left standing within the cleared areas of dead branches 1 1/2 inches or more in diameter; and trim branches to heights and in a manner as indicated. Neatly cut limbs and branches to be trimmed close to the bole of the tree or main branches. Paint cuts more than 1 1/4 inches in diameter with approved tree wound paint.

3.6 DISPOSAL OF MATERIALS

All timber on the project site noted for clearing shall become the property of the Contractor, and shall be removed from the project site and disposed of off of Government property. Logs, stumps, roots, brush, rotten wood, and other refuse from the clearing operations shall be disposed of outside the limits of Government-controlled land at the Contractor's responsibility, except when otherwise directed in writing. Such directive will state the conditions covering the disposal of such products and will also state the areas in which they may be placed. The Contractor shall be responsible for compliance with all Federal and State laws and regulations and with

reasonable practice relative to the disposal of refuse and debris and any accidental loss or damage attendant thereto shall be the Contractor's responsibility.

-- End of Section --

SECTION 32 31 13.53

HIGH-SECURITY CHAIN LINK FENCES AND GATES
04/08

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM A 116	Coated, Steel Woven Wire Fence Fabric
ASTM A 121	(2007) Standard Specification for Metallic-Coated Carbon Steel Barbed Wire
ASTM A 153/A 153M	(2009) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 176	(1999; R 2009) Standard Specification for Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip
ASTM A 392	(2007) Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric
ASTM A 478	(1997; R 2008) Standard Specification for Chromium-Nickel Stainless Steel Weaving and Knitting Wire
ASTM A 491	(2007) Standard Specification for Aluminum-Coated Steel Chain-Link Fence Fabric
ASTM A 666	(2003) Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar
ASTM A 702	(1989; R 2006) Standard Specification for Steel Fence Posts and Assemblies, Hot Wrought
ASTM A 780/A 780M	(2001; R 2006) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM A 824	(2001; R 2007) Standard Specification for Metallic-Coated Steel Marcellled Tension Wire for Use With Chain Link Fence
ASTM B 117	(2009) Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM C 94/C 94M	(2009a) Standard Specification for Ready-Mixed Concrete
ASTM F 1043	(2008) Strength and Protective Coatings on Metal Industrial Chain-Link Fence Framework
ASTM F 1083	(2008) Standard Specification for Pipe, Steel, Hot-Dipped Zinc Coated (Galvanized) Welded, for Fence Structures
ASTM F 1184	(2005) Industrial and Commercial Horizontal Slide Gates
ASTM F 567	(2007) Standard Practice for Installation of Chain Link Fence
ASTM F 626	(2008) Standard Specification for Fence Fittings
ASTM F 668	(2007) Poly(Vinyl Chloride) (PVC) and other Organic Polymer-Coated Steel Chain-Link Fence Fabric
ASTM F 883	(2009) Padlocks
ASTM F 900	(2005) Industrial and Commercial Swing Gates

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS RR-F-191	(Rev K) Fencing, Wire and Post Metal (and Gates, Chain-Link Fence Fabric, and Accessories)
FS RR-F-191/1	(Rev D) Fencing, Wire and Post, Metal (Chain-Link Fence Fabric)
FS RR-F-191/2	(Rev D) Fencing, Wire and Post, Metal (Chain-Link Fence Gates)
FS RR-F-191/3	(Rev D) Fencing, Wire and Post, Metal (Chain-Link Fence Posts, Top Rails and Braces)
FS RR-F-191/4	(Rev D) Fencing, Wire and Post, Metal (Chain-Link Fence Accessories)

1.2 SUBMITTALS

Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

- Fence Installation
- Installation Drawings
- Location of gate, corner, end, and pull posts
- Gate Assembly
- Gate Hardware and Accessories

Installation drawings in accordance with paragraph titled,
"ASSEMBLY AND INSTALLATION DRAWINGS" of this section.

SD-03 Product Data

Fence Installation
Gate Assembly
Gate Hardware and Accessories

Manufacturer's catalog data.

SD-04 Samples

Fabric
Posts
Post Caps
Braces
Line Posts
Sleeves
Top Rail
Tension Wire
Barbed Wire
Barbed Wire Supporting Arms
Stretcher Bars
Gate Posts
Gate Hardware and Accessories
Padlocks
Wire Ties

Samples as described within this section.

SD-06 Test Reports

Weight in ounces for zinc coating

SD-07 Certificates

Chain Link Fence

Submit reports, signed by an official authorized to certify on behalf of the manufacturer, attesting that the chain link fence and component materials meet the specified requirements.

Zinc Coating
Fabric
Barbed Wire
Stretcher Bars
Gate Hardware and Accessories
Concrete

SD-08 Manufacturer's Instructions

Submit Manufacturer's instructions for the following items:

Fence Installation
 Gate Assembly
 Hardware Assembly
 Accessories

SD-10 Operation and Maintenance Data

Submit operating and maintenance instructions

1.3 QUALITY ASSURANCE

1.3.1 Required Report Data

Submit reports of chain-link fencing listing and accessories regarding weight in ounces for zinc coating. Submit reports demonstrating full compliance with the following standards: FS RR-F-191, FS RR-F-191/1, FS RR-F-191/2, FS RR-F-191/3, and FS RR-F-191/4

1.3.2 Assembly and Installation Drawings

Submit complete Fence Installation Drawings for review and approval by the Contracting Officer prior to shipment. Drawing details shall include, but are not limited to: Fence Installation, Location of gate, corner, end, and pull posts, Gate Assembly, and Gate Hardware and Accessories.

1.4 DELIVERY, STORAGE, AND HANDLING

Deliver materials to site in an undamaged condition. Store materials off the ground to provide protection against oxidation caused by ground contact.

PART 2 PRODUCTS

2.1 FENCE FABRIC

2.1.1 General

Provide ASTM A 392, Class 1, zinc-coated steel wire with minimum coating weight of 1.2 ounces of zinc per square foot of coated surface. Fabricate fence fabric of 9 gauge wire woven in 2 inch mesh conforming to ASTM A 116. Set fabric height at 6 feet. Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage. Secure fabric to posts using stretcher bars or ties spaced 15 inches on center, or by integrally weaving to integral fastening loops of end, corner, pull, and gate posts for full length of each post. Install fabric on opposite side of posts from area being secured.

2.2 POSTS

2.2.1 Metal Posts for Chain Link Fence

- a. Provide posts conforming to **ASTM F 1083**, zinc-coated. Group IA, with external coating Type A steel pipe. Group IC steel pipe, zinc-coated with external coating Type A or Type B and Group II, roll-formed steel sections, meeting the strength and coating requirements of **ASTM F 1043** and **ASTM A 702**. Post shall be either Group IA steel pipe, Group IC, Group II, roll-formed steel sections and be zinc coated. Size of posts to match existing sizes in the field. Line posts and terminal (corner, gate, and pull) posts selected shall be of the same designation throughout the fence. Provide gate post for the gate type specified subject to the limitation specified in **ASTM F 900** and/or **ASTM F 1184**. Post spacing shall be approximately 10 feet on center of post.
- b. **FS RR-F-191/3** line posts; Class 1, steel pipe, Grade A or B. End, corner, and pull posts; Class 1, steel pipe, Grade A or B.

2.2.2 Accessories

- a. Provide accessories conforming to **ASTM F 626**. Ferrous accessories shall be zinc coated.
- b. Furnish truss rods for each terminal post. Provide truss rods with turnbuckles or other equivalent provisions for adjustment.
- c. Provide **Barbed wire supporting arms** of the 45 degree outward angle 3-strand or straight up 3-strand arm type and of the design required for the post furnished. Secure arms by top tension wire or top rail.
- d. Furnish **post caps** in accordance with manufacturer's standard accessories. When applicable install post caps as recommended by the manufacturer.
- e. Provide 9 gauge steel tie wire for attaching fabric to rails, braces, and posts and match the coating of the fence fabric. Tie wires for attaching fabric to **tension wire** on high security fences shall be 16 gage stainless steel. Provide double loop tie wires 6.5 inches in length. Miscellaneous hardware coatings shall conform to **ASTM A 153/A 153M** unless modified.

2.3 BRACES AND RAILS

- a. **ASTM F 1083**, zinc-coated, Group IA, steel pipe, size NPS 1-1/4. Group IC steel pipe, zinc-coated, shall meet the strength and coating requirements of **ASTM F 1043**. Braces and rails shall be [Group IA] [Group IC], steel pipe, size NPS 1-1/4 or Group II, formed steel sections, size 1-21/32 inch and be zinc coated (Type A). Group II, formed steel sections, size 1-21/32 inch, conforming to **ASTM F 1043**, may be used as braces and rails if Group II **line posts** are furnished.
- b. Top Rail; Provide a minimum of DN40 (1.660 inches) O.D. pipe rails. Grade A weighing 2.27 pounds per linear foot. Provide expansion couplings 6-inches long at each joint in top rails.

c. Braces; Class 1 steel pipe, Grade A or B, in minimum sizes listed in [FS RR-F-191/3](#) for each class and grade.

2.3.1 STRETCHER BARS

Provide bars that have one-piece lengths equal to the full height of the fabric with a minimum cross section of 3/16 by 3/4 inch, in accordance with [ASTM A 116](#), [ASTM A 702](#) and [ASTM F 626](#).

2.4 WIRE

2.4.1 Wire Ties

[FS RR-F-191/4](#). Provide wire ties constructed of the same material as the fencing fabric.

2.4.2 Barbed Wire

Provide barbed wire conforming to [ASTM A 121](#) zinc-coated, Type Z, Class 3, or aluminum-coated, Type A, with 12.5 gauge wire with 14 gauge, round, 4-point barbs spaced no more than 5 inches apart.

2.4.3 Tension Wire

Provide galvanized wire, No. 7-gage, coiled spring wire, provided at the bottom of the fabric only. Provide [Zinc Coating](#) that weighs not less than 1.6 ounces per square foot.

Install top and bottom tension wires before installing chain-link fabric, and pull wires taut. Place top and bottom tension wires within 8 inches of respective fabric line.

2.5 CONCRETE

[ASTM C 94/C 94M](#), using 3/4 inch maximum size aggregate, and having minimum compressive strength of 3000 psi at 28 days. Grout shall consist of one part portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

2.6 GATES

2.6.1 Gate Assembly

Provide [gate assembly](#) conforming to [ASTM F 900](#) and/or [ASTM F 1184](#) of the type and swing existing in the field. [FS RR-F-191/2](#); Type I, single swing and Type II, double swing; Shape and size of gate frame, to match existing gate sizes. Framing and bracing members, round of steel alloy. Steel member finish, zinc-coated. Provide gate frames and braces of minimum sizes listed in [FS RR-F-191/3](#) for each Class and Grade, except that steel pipe frames are a minimum of 1.90 inches o.d., 0.120 inches minimum wall thickness and aluminum pipe frames and intermediate braces are 1.869 inches o.d. minimum, 0.940 lb/ft of length. Gate fabric, is as specified for fencing fabric. Coating for steel latches, stops, hinges, keepers, and accessories, galvanized, minimum thickness of 0.010 inch. Provide fork type

gate latches. Provide intermediate members as necessary for gate leaves more than 8 feet wide, to provide rigid construction, free from sag or twist. Provide truss rods or intermediate braces for gate leaves less than 8 feet wide. Attach gate fabric to gate frame in accordance with manufacturer's standards, except that welding is not permitted. Arrange padlocking latches to be accessible from both sides of gate, regardless of latching arrangement.

2.6.2 Gate Leaves

For gate leaves, more than 8 feet wide, provide either intermediate members and diagonal truss rods or tubular members as necessary to provide rigid construction, free from sag or twist. Gate leaves less than 8 feet wide shall have truss rods or intermediate braces. Attach fabric to the gate frame by method standard with the manufacturer except that welding will not be permitted.

2.6.3 Gate Hardware and Accessories

Furnish and install latches, hinges, stops, keepers, rollers, and other hardware items as required for the operation of the gate. Arrange latches for padlocking so that the padlock will be accessible from both sides of the gate. Provide stops for holding the gates in the open position. For high security applications, each end member of gate frames shall be extended sufficiently above the top member to carry three strands of barbed wire in horizontal alignment with barbed wire strands on the fence.

2.7 PADLOCKS

Provide padlocks, conforming to ASTM F 883, Size 1-3/4 inch, for all gate openings and provide chains that are securely attached to gate or gate posts. Provide padlocks that are all keyed alike, and provide two keys for each padlock.

PART 3 EXECUTION

3.1 FENCE INSTALLATION

Install fence in accordance with fence manufacturer's written installation instructions except as modified herein. Perform complete installation conforming to ASTM F 567.

3.1.1 Line and Grade

Install fence on prepared surfaces to line and grade as existing in the field. Clear fence line of trees, brush, and other obstacles, 2 feet on either side of the fence line, to install the fencing. Establish a graded, compacted fence line prior to fencing installation. Space footings for line posts 10 feet on center maximum and at closer intervals when indicated. Set bottom of each post not less than 36-inches below finished grade when in firm, undisturbed soil. Set posts deeper, as required, in soft and problem soils and for heavy, lateral loads.

Terminal (corner, gate, and pull) posts shall be set at abrupt changes in vertical and horizontal alignment. Provide fabric continuous between terminal posts; however, runs between terminal posts shall not exceed 500 feet. Repair any damage to galvanized surfaces, including welding, with paint containing zinc dust in accordance with ASTM A 780/A 780M.

Provide excavations for post footings which are [drilled holes] in virgin or compacted soil, of minimum sizes as indicated.

Uniformly spread soil from excavations adjacent to the fence line or on areas of Government property, as directed.

When solid rock is encountered near the surface, drill into the rock at least 12 inches for line posts and at least 18 inches for end, pull, corner, and gate posts. Drill holes at least 1 inch greater in diameter than the largest dimension of the placed post.

If solid rock is below the soil overburden, drill to the full depth required except that penetration into rock need not exceed the minimum depths specified above.

3.1.2 Excavation

Clear all post holes of loose material. Spread waste material where directed. Eliminate ground surface irregularities along the fence line to the extent necessary to maintain a 1 inch clearance between the bottom of the fabric and finish grade.

3.1.3 Concrete Slabs and Walls

Set posts into zinc-coated sleeves, set in concrete slab or wall, to a minimum depth of 12 inches. Fill sleeve joint with lead, non shrink grout, or other approved material. Set posts for support of removable fence sections into sleeves that provide a tight sliding joint and hold posts aligned and plumb without use of lead or setting material.

3.2 POST INSTALLATION

3.2.1 Earth and Bedrock

a. Set posts plumb and in alignment. Except where solid rock is encountered, set posts in concrete to the depth indicated on the drawings. Where solid rock is encountered with no overburden, set posts to a minimum depth of 18 inches in rock. Where solid rock is covered with an overburden of soil or loose rock, set posts to the minimum depth indicated on the drawing unless a penetration of 18 inches in solid rock is achieved before reaching the indicated depth, in which case terminate depth of penetration. Grout all portions of posts set in rock.

b. Portions of posts not set in rock shall be set in concrete from the rock to ground level. Posts set in concrete shall be set in holes not less than the diameter shown on the drawings. Make diameters of holes in solid rock at least 1 inch greater than the largest cross section of the post. Thoroughly consolidate concrete and grout around each post, free of voids and finished to form a dome. Allow concrete and grout to cure for 72 hours prior to attachment of any item to the posts. Group

II line posts may be mechanically driven, for temporary fence construction only, if rock is not encountered. Set driven posts to a minimum depth of 3 feet and protect with drive caps when setting.

Test fence post rigidity by applying a 50 pound force on the post, perpendicular to the fabric, at 5 feet above ground. Post movement measured at the point where the force is applied shall be less than or equal to 3/4 inch from the relaxed position. Test every tenth post for rigidity. When a post fails this test, make further tests on the next four posts on either side of the failed post. All failed posts shall be removed, replaced, and retested at the Contractor's expense.

TOLERANCES

Provide posts that are straight and plumb within a vertical tolerance of 1/4 inch after the fabric has been stretched. Provide fencing and gates that are true to line with no more than 1/2 inch deviation from the established centerline between line posts. Repair defects as directed.

3.3 POST SPACING

Provide line posts spaced equidistantly apart, not exceeding 10 feet on center. Provide gate posts spaced as necessary for size of gate openings. Do not exceed 500 feet on straight runs between braced posts. Provide corner or pull posts, with bracing in both directions, for changes in direction of 15 degrees or more, or for abrupt changes in grade. Provide drawings showing location of gate, corner, end, and pull posts.

3.4 TOP RAILS

Provide top rails that run continuously through post caps or extension arms, bending to radius for curved runs. Provide expansion couplings as recommended by the fencing manufacturer.

3.5 CENTER RAILS

Provide single piece center rails between posts set flush with posts on the fabric side, using special offset fittings where necessary.

3.6 BRACE ASSEMBLY

Provide bracing assemblies at end and gate posts and at both sides of corner and pull posts, with the horizontal brace located at mid height of the fabric.

3.7 FABRIC INSTALLATION

a. Install chain link fabric on the side of the post indicated. Attach fabric to terminal posts with stretcher bars and tension bands. Space bands at approximately 15 inch intervals. Install fabric and pull taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Fasten fabric to line posts at approximately 15 inch intervals

and fastened to all rails and tension wires at approximately 12 inch intervals.

b. Cut fabric by untwisting and removing pickets. Accomplish splicing by weaving a single picket into the ends of the rolls to be joined. The bottom of the installed fabric shall be 1 plus or minus 1/2 inch above the ground.

c. After the fabric installation is complete, exercise the fabric by applying a 50 pound push-pull force at the center of the fabric between posts; the use of a 30 pound pull at the center of the panel shall cause fabric deflection of not more than 2.5 inches when pulling fabric from the post side of the fence; every second fence panel shall meet this requirement; re-secure and retest all failed panels at the Contractor's expense.

3.8 SUPPORTING ARMS

Install barbed wire supporting arms and barbed wire as indicated on the drawings and as recommended by the manufacturer. Anchor supporting arms [to the posts in a manner to prevent easy removal with hand tools] [with 3/8 inch) diameter plain pin rivets or, at the Contractor's option, with studs driven by low-velocity explosive-actuated tools for steel, wrought iron, ductile iron, or malleable iron. Studs driven by an explosive-actuated tool shall not be used with gray iron or other material that can be fractured. Use a minimum of two studs per support arm.] Pull barbed wire taut and attach to the arms with clips or other means that will prevent easy removal.

3.9 GATE INSTALLATION

a. Install gates at the existing locations in the field. Mount gates to swing as existing gate. Install latches, stops, and keepers as required.

b. Attach padlocks to gates or gate posts with chains. Weld or otherwise secure hinge pins, and hardware assembly to prevent removal.

c. Submit four copies of operating and maintenance instructions, a minimum of 2 weeks prior to field training. Operating instructions shall outline the step-by-step procedures required for system startup, operation, and shutdown. Include the manufacturer's name, model number, service manual, parts list, and brief description of all equipment and their basic operating features. Include in the maintenance instructions routine maintenance procedures, possible breakdowns and repairs, and troubleshooting guide. Also include the general gate layout and equipment layout.

3.10 GROUNDING

a. Ground fencing as specified.

b. Ground fences crossed by overhead power lines in excess of 600 volts.

c. Ground fences on each side of all gates, at each corner, at the closest approach to each building located within 50 feet of the fence,

and where the fence alignment changes more than 15 degrees. Grounding locations shall not exceed 650 feet. Bond each gate panel with a flexible bond strap to its gate post. Ground fences crossed by power lines of 600 volts or more at or near the point of crossing and at distances not exceeding 150 feet on each side of crossing.

d. Provide ground conductor consisting of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4 inch by 10 foot long copper-clad steel rod. Drive electrodes into the earth so that the top of the electrode is at least 6 inches below the grade. Where driving is impracticable, electrodes shall be buried a minimum of 12 inches deep and radially from the fence. The top of the electrode shall not be less than 2 feet or more than 8 feet from the fence. Clamp ground conductor to the fence and electrodes with bronze grounding clamps to create electrical continuity between fence posts, fence fabric, and ground rods. Total resistance of the fence to ground shall not be greater than 25 ohms.

3.11 SECURITY

Install new security fencing, remove existing security fencing, and perform related work to provide continuous security for facility. Schedule and fully coordinate work with Contracting Officer and cognizant Security Officer.

3.12 CLEANUP

Remove waste fencing materials and other debris from the work site each workday.

-- End of Section --

SECTION 32 92 19

SEEDING
10/06

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

- ASTM C 602 (2007) Agricultural Liming Materials
- ASTM D 4427 (2007) Peat Samples by Laboratory Testing
- ASTM D 4972 (2001; R 2007) pH of Soils

U.S. DEPARTMENT OF AGRICULTURE (USDA)

- AMS Seed Act (1940; R 1988; R 1998) Federal Seed Act
- DOA SSIR 42 (1996) Soil Survey Investigation Report No. 42, Soil Survey Laboratory Methods Manual, Version 3.0

1.2 DEFINITIONS

1.2.1 Stand of Turf

95 percent ground cover of the established species.

1.3 RELATED REQUIREMENTS

1.4 SUBMITTALS

The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-03 Product Data

Wood cellulose fiber mulch

Fertilizer

Include physical characteristics, and recommendations.

SD-06 Test Reports

Topsoil composition tests (reports and recommendations).

SD-07 Certificates

State certification and approval for seed

SD-08 Manufacturer's Instructions

Erosion Control Materials

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery

1.5.1.1 Seed Protection

Protect from drying out and from contamination during delivery, on-site storage, and handling.

1.5.1.2 Fertilizer Delivery

Deliver to the site in original, unopened containers bearing manufacturer's chemical analysis, name, trade name, trademark, and indication of conformance to state and federal laws. Instead of containers, fertilizer may be furnished in bulk with certificate indicating the above information.

1.5.2 Storage

1.5.2.1 Seed and Fertilizer Storage

Store in cool, dry locations away from contaminants.

1.5.2.2 Topsoil

Prior to stockpiling topsoil, treat growing vegetation with application of appropriate specified non-selective herbicide. Clear existing vegetation three to four weeks prior to stockpiling topsoil.

1.5.2.3 Handling

Do not drop or dump materials from vehicles.

1.6 TIME RESTRICTIONS AND PLANTING CONDITIONS

1.6.1 Restrictions

Do not plant when the ground is muddy, or when air temperature exceeds 90 degrees Fahrenheit.

1.7 TIME LIMITATIONS

1.7.1 Seed

Apply seed within twenty four hours after seed bed preparation.

PART 2 PRODUCTS

2.1 SEED

2.1.1 Classification

Provide State-approved seed of the latest season's crop delivered in original sealed packages, bearing producer's guaranteed analysis for percentages of mixtures, purity, germination, weed seed content, and inert material. Label in conformance with **AMS Seed Act** and applicable state seed laws. Wet, moldy, or otherwise damaged seed will be rejected. Field mixes will be acceptable when field mix is performed on site in the presence of the Contracting Officer.

2.1.2 Planting Dates

<u>Planting Season</u>	<u>Planting Dates</u>
[Season 1]	[_____]
[Season 2]	[_____]
[Temporary Seeding]	[_____]

2.1.3 Seed Purity

Botanical Name	Common Name	Min. Percent Pure Seed	Min. Percent Germination and Hard Seed	Max. Percent Weed Seed
[_____]	[_____]	[_____]	[_____]	[_____]
[_____]	[_____]	[_____]	[_____]	[_____]
[_____]	[_____]	[_____]	[_____]	[_____]

2.1.4 Seed Mixture by Weight

<u>Planting Season</u>	<u>Variety</u>	<u>Percent (by Weight)</u>
[Season 1]	[_____] [_____]	[_____] [_____]
[Season 2]	[_____] [_____]	[_____] [_____]
[Temporary Seeding]	[_____] [_____]	[_____] [_____]

Proportion seed mixtures by weight. Temporary seeding must later be replaced by [Season 1][Season 2] plantings for a permanent stand of grass. The same requirements of turf establishment for [Season 1][Season 2] apply for temporary seeding.

2.2 TOPSOIL

2.2.1 On-Site Topsoil

Not Used

2.2.2 Off-Site Topsoil

Conform to requirements specified in paragraph entitled "Composition." Additional topsoil shall be furnished by the Contractor.

2.2.3 Composition

Containing from 5 to 10 percent organic matter as determined by the **topsoil composition tests** of the Organic Carbon, 6A, Chemical Analysis Method described in **DOA SSIR 42**. Maximum particle size, 19 mm (3/4 inch), with maximum 3 percent retained on 6 mm (1/4 inch) screen. The pH shall be tested in accordance with **ASTM D 4972**. Topsoil shall be free of sticks, stones, roots, and other debris and objectionable materials. Other components shall conform to the following limits:

Silt	[25-50]	[7 to 17]	[_____]	percent
Clay	[10-30]	[4 to 12]	[_____]	percent
Sand	[20-35]	[70 to 82]	[_____]	percent
pH	[5.5 to 7.0]	[_____]		
Soluble Salts	[600]	[_____]		ppm maximum

2.3 SOIL CONDITIONERS

Add conditioners to topsoil as required to bring into compliance with "composition" standard for topsoil as specified herein.

2.3.1 Lime

Commercial grade hydrate limestone containing a calcium carbonate equivalent (C.C.E.) as specified in **ASTM C 602** of not less than [_____] percent.

2.3.2 Aluminum Sulfate

Commercial grade.

2.3.3 Sulfur

100 percent elemental

2.3.4 Iron

100 percent elemental

2.3.5 Peat

Natural product of peat moss derived from a freshwater site and conforming to [**ASTM D 4427**]. Shred and granulate peat to pass a 1/2 inch mesh screen and condition in storage pile for minimum 6 months after excavation.

2.3.6 Sand

Clean and free of materials harmful to plants.

2.3.7 Perlite

Horticultural grade.

2.3.8 Composted Derivatives

Ground bark, nitrolized sawdust, humus or other green wood waste material free of stones, sticks, and soil stabilized with nitrogen and having the following properties:

2.3.8.1 Particle Size

Minimum percent by weight passing:

No. 4 mesh screen	95
No. 8 mesh screen	80

2.3.8.2 Nitrogen Content

Minimum percent based on dry weight:

Fir Sawdust	0.7
Fir or Pine Bark	1.0

2.3.9 Gypsum

Coarsely ground gypsum comprised of calcium sulfate dihydrate 61 percent, calcium 22 percent, sulfur 17 percent; minimum 96 percent passing through 20 mesh screen, 100 percent passing thru 16 mesh screen.

2.3.10 Calcined Clay

Calcined clay shall be granular particles produced from montmorillonite clay calcined to a minimum temperature of 1200 degrees F. Gradation: A minimum 90 percent shall pass a No. 8 sieve; a minimum 99 percent shall be retained on a No. 60 sieve; and a maximum 2 percent shall pass a No. 100 sieve. Bulk density: A maximum 40 pounds per cubic foot.

2.4 FERTILIZER

2.4.1 Granular Fertilizer

Granular controlled release fertilizer containing the following minimum percentages, by weight, of plant food nutrients:

- [_____] percent available nitrogen
- [_____] percent available phosphorus
- [_____] percent available potassium
- [_____] percent sulfur
- [[_____] percent iron]

2.4.2 Hydro Seeding Fertilizer

Controlled release fertilizer, to use with hydro seeding and composed of pills coated with plastic resin to provide a continuous release of nutrients for at least 6 months and containing the following minimum percentages, by weight, of plant food nutrients.

- [_____] percent available nitrogen
- [_____] percent available phosphorus
- [_____] percent available potassium

[[_____] percent sulfur]
 [[_____] percent iron]

2.5 MULCH

Mulch shall be free from noxious weeds, mold, and other deleterious materials.

2.5.1 Straw

Not Used

2.5.2 Hay

Not Used

2.5.3 Wood Cellulose Fiber Mulch

Use recovered materials of either paper-based (100 percent) or wood-based (100 percent) hydraulic mulch. Processed to contain no growth or germination-inhibiting factors and dyed an appropriate color to facilitate visual metering of materials application. Composition on air-dry weight basis: 9 to 15 percent moisture, pH range from 5.5 to 8.2. Use with hydraulic application of grass seed and fertilizer.

2.6 WATER

Source of water shall be approved by Contracting Officer and of suitable quality for irrigation, containing no elements toxic to plant life.

2.7 EROSION CONTROL MATERIALS

Erosion control material shall conform to the following:

2.7.1 Erosion Control Blanket

Not Used

2.7.2 Erosion Control Fabric

Not Used

2.7.3 Erosion Control Net

Not Used

2.7.4 Hydrophilic Colloids

Hydrophilic colloids shall be physiologically harmless to plant and animal life without phototoxic agents. Colloids shall be naturally occurring; silicate powder based, and shall form a water insoluble membrane after curing. Colloids shall resist mold growth.

2.7.5 Erosion Control Material Anchors

Erosion control anchors shall be as recommended by the manufacturer.

PART 3 EXECUTION

3.1 PREPARATION

3.1.1 EXTENT OF WORK

Provide soil preparation fertilizing, seeding, and surface topdressing of all newly graded finished earth surfaces, unless indicated otherwise, and at all areas inside or outside the limits of construction that are disturbed by the Contractor's operations.

3.1.1.1 Topsoil

Provide 4 inches of off-site topsoil to meet indicated finish grade. After areas have been brought to indicated finish grade, incorporate fertilizer into soil a minimum depth of 4 inches by disking, harrowing, tilling or other method approved by the Contracting Officer. Remove debris and stones larger than 3/4 inch in any dimension remaining on the surface after finish grading. Correct irregularities in finish surfaces to eliminate depressions. Protect finished topsoil areas from damage by vehicular or pedestrian traffic.

3.1.1.2 Soil Conditioner Application Rates

Not Used

3.1.1.3 Fertilizer Application Rates

Apply fertilizer at rates as determined by laboratory soil analysis of the soils at the job site. For bidding purposes only apply at rates for the following:

Hydro Seeding Fertilizer 15 pounds per 1000 square feet.

3.2 SEEDING

3.2.1 Seed Application Seasons and Conditions

Immediately before seeding, restore soil to proper grade. Do not seed when ground is muddy or in an unsatisfactory condition for seeding. If special conditions exist that may warrant a variance in the above seeding dates or conditions, submit a written request to the Contracting Officer stating the special conditions and proposed variance. Apply seed within twenty four hours after seedbed preparation. Sow seed by approved sowing equipment. Sow one-half the seed in one direction, and sow remainder at right angles to the first sowing.

3.2.2 Seed Application Method

Seeding method shall be broadcasted, drop seeding, or hydro seeding.

3.2.2.1 Broadcast and Drop Seeding

Seed shall be uniformly broadcast at the rate of 20 pounds per 1000 square feet. Use broadcast or drop seeders. Sow one-half the seed in one direction, and sow remainder at right angles to the first sowing. Cover seed uniformly to a maximum depth of 1/4 inch in clay soils and 1/2 inch in

sandy soils by means of spike-tooth harrow, culti-packer, raking or other approved devices.

3.2.2.3 Hydro Seeding

First, mix water and fiber. Wood cellulose fiber, paper fiber, or recycled paper shall be applied as part of the hydro seeding operation. Fiber shall be added at 1,000 pounds, dry weight, per acre. Then add and mix seed and fertilizer to produce a homogeneous slurry. Seed shall be mixed to ensure broadcasting at the rate of 15 pounds per 1000 square feet. When hydraulically sprayed on the ground, material shall form a blotter like cover impregnated uniformly with grass seed. Spread with one application with no second application of mulch.

3.2.3 Mulching

Not Used

3.2.3.2 Mechanical Anchor

Not Used

3.2.3.3 Asphalt Adhesive Tackifier

Asphalt adhesive tackifier shall be sprayed at a rate between 10 to 13 gallons per 1000 square feet. Sunlight shall not be completely excluded from penetrating to the ground surface.

3.2.3.4 Non-Asphaltic Tackifier

Hydrophilic colloid shall be applied at the rate recommended by the manufacturer, using hydraulic equipment suitable for thoroughly mixing with water. A uniform mixture shall be applied over the area.

3.2.3.5 Asphalt Adhesive Coated Mulch

Not Used

3.2.4 Rolling

Immediately after seeding, firm entire area except for slopes in excess of 3 to 1 with a roller not exceeding 90 pounds) for each foot of roller width. [If seeding is performed with cultipacker-type seeder or by hydro seeding, rolling may be eliminated.]

]3.2.5 Erosion Control Material

Install in accordance with manufacturer's instructions, where indicated or as directed by the Contracting Officer.

3.2.6 Watering

Start watering areas seeded as required by temperature and wind conditions. Apply water at a rate sufficient to insure thorough wetting of soil to a depth of 2 inches without run off. During the germination process, seed is to be kept actively growing and not allowed to dry out.

3.3 PROTECTION OF TURF AREAS

Immediately after turfing, protect area against traffic and other use.

3.4 RENOVATION OF EXISTING TURF AREA

3.4.1 Aeration

Upon completion of weed eradication operations and Contracting Officer's approval to proceed, aerate turf areas indicated , by approved device. Core, by pulling soil plugs, to a minimum depth of 1 inches. Leave all soil plugs, that are produced, in the turf area. After aeration operations are complete, top dress entire area (1/4 inch)depth with the following mixture:

- [[_____] percent sand]
- [[_____] percent humus]
- [[_____] percent gypsum]
- [[_____] percent organic fertilizer]
- [[_____] percent synthetic fertilizer]

Blend all parts of topdressing mixture to a uniform consistency throughout.] Keep clean at all times at least one paved pedestrian access route and one paved vehicular access route to each building. Clean all soil plugs off of other paving when work is complete.

3.4.2 Vertical Mowing

Upon completion of aerating operation and Contracting Officer's approval to proceed, vertical mow turf areas indicated, by approved device, to a depth of 1/4 inch above existing soil level, to reduce thatch build-up, grain, and surface compaction. Keep clean at all times at least one paved pedestrian access route and one paved vehicular access route to each building. Clean other paving when work is complete. Remove all debris generated during this operation off site.

3.4.3 Dethatching

Not Used

3.4.4 Overseeding

Apply seed in accordance with applicable portions of paragraph entitled "Seed Application Method" at rates in accordance with paragraph entitled "Seed Composition."

3.5 RESTORATION

Restore to original condition existing turf areas which have been damaged during turf installation operations at the Contractor's expense. Keep clean at all times at least one paved pedestrian access route and one paved vehicular access route to each building. Clean other paving when work in adjacent areas is complete.

-- End of Section --