OSFM
NC DEPARTMENT OF INSURANCE

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MIKE CAUSEY, INSURANCE COMMISSIONER & STATE FIRE MARSHAL
BRIAN TAYLOR, CHIEF STATE FIRE MARSHAL

MEMORANDUM

DATE: January 7, 2019

TO: Building Inspection Departments and Temporary Manufactured Housing, Travel Trailer and Park Model (MHU, TT, PM) FEMA Unit Installers

FROM: Joseph H. Sadler, Jr., P.E.
Deputy Commissioner
Manufactured Building Division

RE: Installation of "Temporary FEMA" Manufactured Housing, Park Model and Travel Trailer Units

PURPOSE

The purpose of this memorandum is to clarify the position of the NC Department of Insurance, in a cooperative effort with FEMA (U.S. Department of Homeland Security) and N.C. Emergency Management (N.C. Department of Public Safety), to establish guidelines for the Local Authority Having Jurisdiction (LAHJ) in regards to the installation of FEMA Manufactured Housing (MHU) Units to be utilized for temporary housing to provide assistance to storm relief victims for the duration of a "Presidentially Declared Disaster" recovery period as described in the Robert T. Stafford Relief and Assistance Act (Public Law 93-288/42 U.S.C. 5121 et seq.). All units are owned by the Federal Government (FEMA) and will be maintained and serviced by their Contracting Officer's Representative (COR) during the required period for placement of the temporary housing units. These units may be in place for up to 18 months during the recovery period. Since these units are to be temporary and owned and maintained by FEMA and their contactors the LAHJ is not responsible for the installation or maintenance of the units.

FEMA Manufactured Housing Units (MHUs) are certified compliant with all U.S. Housing and Urban Development (HUD) requirements and are manufactured to exceed all state and local regulations. The installation of the temporary units must be installed in compliance with the attached FEMA installation requirements and exceed what would normally be required for the set-up of a manufactured home by Federal and State regulations except for some items that have been addressed through more stringent installation procedures.

There are different requirements for HUD labeled manufactured homes and the Park Model (PM) Units and Travel Trailers (TT) Units for installation, especially for the electrical supply connections.

FEMA MISSION (See attached Document HSFE80-17-R-0005/FEMA Logistics Contract & Requirements)

C.1.2 Mission

FEMA is authorized to provide disaster assistance to individuals and households for emergencies, major disasters, and Incidents of National Significance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended and Related Authorities. Per that authorization, this PWS applies for the Federal Disaster declaration that includes Individual Assistance referenced in Manufactured Housing Unit Mission Service Contract Operational Performance Expectations (MHUM SCOPE) (See Section J, Attachment J.1). In addition there will be a version of the MHUM SCOPE that is titled Permanent Manufactured Housing Unit Mission Service Contract Operational Performance Expectations (PMHUM SCOPE) (See Section J, Attachment J.29). The MHUM or PMHUM SCOPE is a snapshot of a Manufactured Housing Unit (MHU) mission as it is known at the time that FEMA requests contractors submit proposals for a task order. The complete mission parameters are not known at the start of an MHU mission as the needs of the disaster survivors cannot be fully assessed. Changes to the MHU mission will occur throughout the duration of the mission. Changes can include: additional counties being added to the disaster declaration; the mix of private, commercial and group site MHU installations; and the length of the mission. For the rest of this contract the term MHUM SCOPE shall be used to represent both the MHUM SCOPE and the PMHUM SCOPE for whichever is appropriate for the mission being proposed.

C.1.2.1

DESCRIPTION OF FEMA EMERGENCY OPERATIONS

The FEMA Prime Contractor or Point of Contact (POC) will hire the individual installers, who are must be licensed by the Manufactured Building Division of the North Carolina Department of Insurance. Each contractor must procure a permit from the local jurisdiction before installation as described below:

C.4.2.1 Installation Permits

The contractor shall identify and apply for all permits that are required for MHU installation as defined in Section F.6 Areas #13 and #23, unless a deviation is approved by the COR. The contractor shall be responsible for obtaining necessary permits associated with placing and installing the unit and utility installation. The contractor shall identify the permits required for completing the unit installation. In the event that delays occur in obtaining local government issued permits, the contractor, with COR authorization, as approved by the CO, and in coordination with the AHJ, has the option to employ the services of a third party permitting agency to expedite processing of permits. In the event that the contractor pays for the permits required for MHU installation, the Government will reimburse the contractor at actual expense (receipt and proper documentation required).

It is requested that the Local Authority Having Jurisdiction (LAHJ) in the affected areas cooperate with FEMA and their contractor to do everything possible to expedite the issuance of permits and inspections in assisting the citizens who have been displaced in acquiring temporary accommodations while repairs are conducted as soon as is possible.

INSTALLATIONS DEVIATIONS

1) Procedures for the placement of units in flood hazard areas are described in (Section C.3) and all MHUs installed in "Flood Zone A" (100-year Flood Zone) shall receive local flood zone or floodplain manager approval prior to installing the units (Section C.3.2.1).

2) Footings for MHU unit piers may be placed on grade in lieu of the frostline depth. All support piers will be double stacked and interlocked. FEMA installation requirements exceed the normal requirements for gravity load support, tiedown and uplift requirements. Frost heave in the affected areas are minimal due to these installation enhancements (i.e. Tiedowns spaced at 3.5 feet on center) and preventive maintenance procedures (See Section C.5).

3) Water supply and DWV pipes may be installed above ground for the period of the temporary installation and maintained through preventive maintenance inspections and emergency repair response by the FEMA and its contractors. (See Section C.5)

4) Electrical feeder installation for Manufactured Housing Units (MHU) shall be buried and in conduit as required by (Section C.4.2.6) at the excavation depth required by the NEC or 18 inches, whichever is greater (Section C.4.2.6 (3)).

5) Feeders for Park Trailers (PM) and Travel Trailers (TT) shall be installed as required by the attached interpretive memos issued by the State Electrical Engineer in the N.C. Office of the State Fire Marshal - Engineering Division. (See attached memos)

6) Stairs and ramps shall be installed in accordance with (Section C.4.3 through C.4.3.3) and anchored in accordance with the following:

Strapping and anchoring shall be governed by the stricter of the stipulations found in either the manufacturer requirements, or the official instruction of the state or local authority having jurisdiction (AHJ). The strap shall be 1¼" x 35/1000" thick cold rolled galvanized steel, as per Federal Specification QQ-S-781 G for Type 1 Class B, Grade 1 strapping. The anchor straps shall be snug and in a near vertical position.

Note: The preventive maintenance program implemented by FEMA included periodic inspection and adjustment as necessary for straps during the period the temporary homes are in place at the site (Section C.5). They also maintain a 24/7 line for emergency repairs (Section C.5.1.5.5).

NOTE: The above items are some of the issues that have been directed to our office by the local jurisdictions and may not cover every issue that may be encountered in the field. The attached FEMA contract includes the requirements for installation of the temporary units by FEMA. Again, this is a cooperative effort to help the affected citizens of North Carolina and are not what one would require in normal circumstances. Communication between all parties is very important. If there are any questions regarding the installation of these units, contact this office (919-647-0000).

FEMA COR (Contracting Officer's Representative) is Carl Kahn (225) 910-5244
FEMA contacts are Tracy McCauley (919-990-4073) or Carl Kahn (225) 910-5244
FEMA PRIME CONTRACTOR (POC) contact is Eric Ulm, MLU Services (919) 410-2584
NORTH CAROLINA EMERGENCY MANAGEMENT contact is Joe Stanton (919) 218-6325

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Table of Revisions

Version	Date	Revision
AA	6/30/2017	Initial Solicitation
AB	8/18/2017	Responses to Questions and General Clean-up
AC	11/27/2017	Additional Clean-up

SECTION C - DESCRIPTION/SPECIFICATIONS/PERFORMANCE WORK STATEMENT

Section C.0 Version Control/Version Definition

During the life of this contract, FEMA anticipates that there may be changes in requirements. To ensure that government staff and contractors are aware of the most current version and so that all concerned will be able to identify which version is more recent the following version identification will be implemented.

The version identifier will use a two letter designation. The first letter identifies the major revision the second letter identifies a minor revision. FEMA anticipates that during the life of a contract only the minor revision will change. The version identifier is located in the footer located on each page.

The initial version of Log HOUSE is identified with the major revision designator of A. The minor version identified is A. If a minor revision is made the minor designation will change to B.

This version of this requirement is designated:
AC

Any changes made to these requirements will be designated as follows:
AB for the first change
AC for the second change
Etc.

Section C.1 General Management and Administration

C.1.1 SCOPE

The contractor shall furnish all management, supervision, personnel, equipment, materials, transportation, and supplies necessary to perform services within the Contiguous United States (CONUS) as defined by this Performance Work Statement (PWS) for the Federal Emergency Management Agency (FEMA). In addition to FEMA's Stafford Act authorities this contract may be used for any additional work approved by FEMA including missions funded through the Economy Act and/ other appropriate funding transfer documents.

C.1.1.1 Contract Type

The Logistics Housing Operations Unit Installation, Maintenance and Deactivation (LOGHOUSE) Contracts are a hybrid (firm fixed prices and time and materials) that includes services and construction. Section C contains the areas of work that will be identified specifically as either services or construction. Some parts of Section C may be applicable to both services and construction. All other sections of the contract that are applicable to the identified parts of

Section C shall have the appropriate terms, conditions and clauses applicable. The parts of Section C that are construction include:

- Section C.2.4.2 Staging Area Feasibility, Improvement, Design, and Construction;
- Section C.4.5 Semi-Permanent/Permanent Construction;
- Section C.7 Commercial Park Expansion Feasibility, Design and Construction; and,
- Section C.8 Group Site Feasibility, Design and Construction.

The remainder of Section C contain work that are services unless it specifically relates to Section C.2.4.2, Section C.4.5, Section C.7 or Section C.8.

The majority of the CLINs are Fixed Price with negotiation occurring when enough information is available. Non-Fixed Price CLINs are for reimbursement of actual expenses incurred imposed by an outside source such as a local government or utility provider. The expenses identified as being reimbursable will be reimbursed at the actual expenses incurred without fees; general and administrative expenses or other overhead or burdened rate.

C.1.2 Mission

FEMA is authorized to provide disaster assistance to individuals and households for emergencies, major disasters, and Incidents of National Significance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended and Related Authorities. Per that authorization, this PWS applies for the Federal Disaster declaration that includes Individual Assistance referenced in Manufactured Housing Unit Mission Service Contract Operational Performance Expectations (MHUM SCOPE) (See Section J, Attachment J.1). In addition there will be a version of the MHUM SCOPE that is titled Permanent Manufactured Housing Unit Mission Service Contract Operational Performance Expectations (PMHUM SCOPE) (See Section J, Attachment J.29). The MHUM or PMHUM SCOPE is a snapshot of a Manufactured Housing Unit (MHU) mission as it is known at the time that FEMA requests contractors submit proposals for a task order. The complete mission parameters are not known at the start of an MHU mission as the needs of the disaster survivors cannot be fully assessed. Changes to the MHU mission will occur throughout the duration of the mission. Changes can include: additional counties being added to the disaster declaration; the mix of private, commercial and group site MHU installations; and the length of the mission. For the rest of this contract the term MHUM SCOPE shall be used to represent both the MHUM SCOPE and the PMHUM SCOPE for whichever is appropriate for the mission being proposed.

C.1.2.1 Mission Location

The center point of operation is the FEMA/Joint Field Office (JFO)/Area Field Office (AFO), which will be the initial reporting office for the housing mission. The location of the JFO/AFO is included in the MHUM SCOPE.

C.1.2.2 Mission Description

The contractor shall support the Government's Manufactured Housing Unit mission. The mission may include: the transportation of MHUs from a Manufactured Housing Storage Site (MHSS) to a FEMA forward Manufactured Housing Staging Area (MHSA); the construction, operation of and/or staffing of a staging area; the transportation of MHUs to be installed on private sites, commercial sites, FEMA developed groups sites, and/or other alternate sites; installation and maintenance of the MHUs; and deactivation and transportation of used/unneeded MHUs to a FEMA designated storage site or other locations specified by FEMA.

C.1.3 Phases of Operation/Required Availability

C.1.3.1 Phases of Operation

MHU mission task orders issued under this contract shall be awarded for a fixed period of time. All MHU missions regardless of the mission's length shall have three phases:

- Phase- In
- Operational Period
- Phase- Out

Phase-In is defined as the time between task order award and the first contractor's arrival at the JFO to prepare the location for the time they are required to perform the first work order. The Operational Period is defined as the timeframe where the contractor performs activities that assist FEMA in the Agency's MHU mission. Phase-Out is defined as the end of a mission when the contractor has completed the mission and depart the Area of Operation.

C.1.3.2 Required Availability

Required availability is defined as the contractor having adequate and appropriate staff that is able to perform each of the requirements of the applicable sections of the contract. If the contractor chooses to have staff available earlier, all expenses associated with that early deployment will be borne by the contractor. Time extension requests or delays in arrival must be approved in advance, in writing, by the CO. (See Section J, Attachment J.28)

C.1.4 Performance Clock/Calendar Day

The calendar day a work order is issued is day zero. Any day where a task can be worked for at least half (1/2) the hours available to work the task for that day shall be counted as a work day.

NOTE: The receipt of this deliverable is determined by the COR's timestamp either electronic or physical.

C.1.4.1 Stopping the Clock

Stopping the clock will be used as part of the calculations for contractor performance as defined in Section E. Stopping the clock is a request from the contractor to the Government to turn the performance clock off for delays that are outside of the contractor's control Due to the nature of the work, circumstances may occur, beyond the contractor's control, which will hinder the completion of a work order within the timeframe required. Examples of stopping the clock include waiting for the local utility to provide electricity or waiting for the local Authority Having Jurisdiction (AHJ) to provide a required permit. When such issues are encountered, the contractor may request that the time performance clock be stopped until such time as the issue is no longer a factor. In order to accommodate a clock stop request, the contractor shall make such request in writing (either hard copy or email) to the COR to include the work order number, the type of work order, the reason to stop the clock, and the anticipated length of the clock stop. If there are known pre-defined issues that would hinder the completion of a work order within the timeframe required, the contractor may request a modification to the task order in advance for the time performance clock to be stopped for these issues should they occur. Once the COR approves the clock stop, the time lapse during the clock stop may not count against the contractor's performance requirement for the deliverable.

When the issue required a clock stop has been resolved, the contractor shall notify the COR, in writing, and request that the clock be restarted. Clock stops are at the discretion of the COR. If the COR makes this determination notification documented in writing to the contractor and the Contracting Officer. If clock stop system is abused (excessive, unwarranted or improper usage), the COR may determine that there will be no additional clock stops during the period of performance for the subject task order or the subject work order.

C.1.5 Projected Workload

The projected workload and relevant sections of the PWS for a task order are provided in the MHUM SCOPE (See Section J, Attachments J.1). Required services may include: the transportation of MHUs from the Manufactured Housing Storage Site (MHSS) to the Manufactured Housing Staging Area (MHSA); the construction, improvement, operation and/or staffing of a staging area; the transportation of MHUs to private sites, commercial sites, FEMA developed group sites, and/or other alternate sites; installation and maintenance of the MHUs; and

deactivation and transportation of used/unneeded MHUs to a FEMA designated storage site or other location specified by FEMA.

Expected timelines and operational requirements for the provision of services specified by the MHUM SCOPE (See Section J, Attachment J.1) and in this contract are included in this PWS and Section F: Deliveries or Performance. However, the contractor is responsible for supporting any Government changes to the contract schedule. The Government will attempt to provide the contractor with advanced notice of any changes to the schedule in writing; however, due to the mission the Government may not be able to provide said notice.

C.1.6 Contractor Furnished Property

C.1.6.1 Contractor Furnished Property – JFO

The contractor shall be responsible for providing all facilities, office equipment, and materials which are not provided as Government Furnished Equipment (GFE), as necessary to fulfill the requirements of the contract. This includes any collateral equipment, such as calculators, computers not connected to the FEMA network server, copy machines, and consumable and general office supplies.

C.1.6.2 Contractor Furnished Property – Contractor Field Office

If required by FEMA, and approved in writing by the CO, the contractor shall establish a field office within the disaster area of operation, if space is limited or unavailable for the contractor at the Joint Field Office. Prior to establishing a field office, the contractor shall provide the COR with a complete list of items required to determine need and price reasonableness. Contractor furnished property includes the facility, office equipment, internet and telephone connections. Any increase to the initial list of items shall be approved in advance by the COR.

C.1.7 Contractor Minimum Qualifications

The contractor shall provide professional, courteous, and timely services, activities, and management to ensure that all work identified in this PWS is completed. This includes incorporating customer service into operations, where appropriate, as well as employing a flexible and transparent performance management system that includes performance measures of contractor staff, subcontractors, and other representatives. The contractor is responsible for providing personnel who can pass a background investigation, in accordance with Homeland Security Presidential Directive 12 (HSPD 12), for activities that require FEMA badges and/or access to FEMA facilities and equipment (i.e. computers, networks).

C.1.8 Performance Evaluation Meetings

The contractor's Field Task Order Manager shall meet with the CO or COR and other Government Personnel to review contractor performance. Conversely, the contractor may request performance evaluation meetings with the CO/COR when he or she believes such a meeting is necessary. The contractor shall prepare written minutes of any such meeting and minutes shall be recorded in the contract file and signed by the Contractor's Field Task Order Manager and the CO or COR.

C.1.9 Electronic Data Interchange

The contractor may be tasked to provide support for capturing, consolidating, and transferring information to update FEMA's Housing Operations Management Enterprise System (HOMES). All Contractor staff requiring access to HOMES (or its successor program or other programs adopted by FEMA) and other Government computer systems must pass a background investigation and be able to obtain a security badge, in accordance with Homeland Security Presidential Directive 12 (HSPD 12). Other items that the contractor shall provide to the government in electronic form are the appropriate deliverables as listed in Section F.

C.1.10 Contractor Roles and Responsibilities

The contractor roles and responsibilities are contingent on the services required specific to the disaster event. The categories of services required may include: MHU haul; MHU staging; MHU installation (including semi-permanent/permanent installation); MHU maintenance; MHU deactivation, group site construction, group site maintenance and commercial site expansion. The required services and projected workload are specified in the MHUM SCOPE (See Section J, Attachment J.1). Roles and responsibilities for each of these categories are listed below.

C.1.10.1 General Roles and Responsibilities

1. Provide all materials, labor, tools, equipment, and services necessary for the work performed pursuant to this PWS.
2. Obtain and provide appropriately licensed staff and/or subcontractors, where required, to perform the work provided for in this PWS. This includes, for example, haulers, drivers, installation laborers, carpenters, electricians, plumbers, pest control specialists, construction workers, engineers, fence installers, pavers and/or appliance technicians (and other disciplines not listed here), as needed, for the performance of the work outlined herein. Work is to be performed in accordance with all Federal, state, and local laws, rules and regulations or of any other legitimate political subdivision or authority having jurisdiction where the work is being performed. Full and Open Awardees may, but are not required to, use Small Business Set Aside Awardees as subcontractors.
3. Prepare and submit a subcontracting plan providing, at a minimum, company name, role within the contractor's work plan. Full and Open Offerors shall include small business type

and estimated dollar value of the work allocated to each small business type. Contractors are encouraged to use local subcontractors to the maximum extent possible. This subcontracting plan is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Section F.6, Area #1, #11 and #53.

4. Actively coordinate with the FEMA COR or designee and notify COR or designee immediately of any potential constraints regarding any of the work provided for in this PWS
5. Ensure that contractor staff display appropriate identification at all times while in the field and during interactions with applicants.
6. Perform work and task order activities on time. Ensure contractor performance meets the requirements outlined in this PWS and Section F: Deliveries or Performance.
7. Account for, track, and maintain all GFE. Provide a report to the COR on GFE disposition and status as specified in Section F: Deliveries or Performance, Section F.6, Area #35.
8. Dispose of all waste associated with any work performed pursuant to this PWS in compliance with all Federal, State, and local laws, regulations, and rules. This includes, but is not limited to, construction debris, any MHU/Park Model (PM) /Travel Trailer (TT) contents designated for disposal, as well as spent fuels, batteries, refrigerants, tires, etc. Under no circumstances will tires and other hazardous materials be stored on FEMA group sites or other sites occupied by disaster survivors (the exception are tires for the housing unit which typically remain attached to the housing unit but can, if required for installation, be stored under the housing unit). The contractor shall pay any fees associated with the removal and disposal of any waste, including hazardous or special waste, generated by the contractor.
9. Contractor Safety:
    a. The contractor shall furnish all required safety equipment and/or clothing, which may be required for personnel as mandated by Federal, State, and local code, whichever is more stringent. This will include maintaining a safe working environment for the contractor's employees, unit occupants, FEMA staff, other contractors and the general public. At no time will the contractor leave unattended or otherwise unprotected, any excavation or safety hazard that might cause injury to persons.
    b. The contractor shall comply with the Department of Labor and the Occupational Safety and Health Administration (OSHA) safety regulations, U.S. Army Corps of Engineers Safety Manual EM 385-1-1 rules and requirements, as well as any other Federal, state, county and local laws, codes and ordinances, whichever is more stringent. OSHA regulations can be found on the internet at https://www.osha.gov/law-regs.html. The current U.S. Army Corps of Engineers

manual can be found on the internet at- http://publications.usace.army.mil/publications/eng-manuals/.

c. The contractor is responsible for keeping their employees safe and for developing policies and procedures for notifying FEMA of a potential security or safety issue. The contractor shall contact the COR if there are security or safety issues. FEMA will notify the contractor if/when the contractor can return to the location at issue.

10. Provide reports, as defined by Section F: Deliveries or Performance and by the COR. Ensure that all reports meet the information needs specified by Section F: Deliveries or Performance and any additional information requested by the COR. Maintain accurate records and provide all documents as required in the contract, specifically as defined in Section F: Deliveries or Performance.

11. Assume responsibility for confirming the accuracy of information provided by FEMA to the contractor as part of mission planning (e.g., installation requirements, locations of commercial parks, etc.).

12. Responsible for providing appropriate and required bonds for construction tasks (when notified in advance by the CO). *Note: MHU installation is specifically excluded from the requirements of construction bonds in that they are performed under the Service Contract Act.*

C.1.10.2 Transport Roles and Responsibilities

1. Perform transportation as specified in this PWS and complete all deliverables or performance as specified in Section F: Deliveries or Performance.

2. Transport MHUs from pickup locations designated by FEMA to delivery locations designated by FEMA without causing any damage to the unit. The contractor's transportation work may be to, from, and/or between Manufactured Housing Storage Sites (MHSS); installation addresses; Manufactured Housing Staging Areas (MHSA); manufacturer's facilities; or other locations.

3. Hauling locations and other transportation services are specified in: MHUM SCOPE (See Section J, Attachment J.1) or specified by the COR in a work order.

4. Damages to the MHU during transport are the responsibility of the contractor. Repairs determined by the COR not to be the responsibility of the contractor that occur during transportation will be as directed and authorized by the COR or CO. The contractor may provide the COR with information that could allow the COR to make a determination of responsibility. The COR's determination of responsibility shall be final. Repairs shall be carried out within three (3) business days of the COR's decision as authorized by the CO.

5. Obtain all permits and licenses for transport, as required. The expenses incurred for the licenses and/or permits will be reimbursed by the Government if receipts documenting the expense are provided to the COR.

C.1.10.3 Staging Roles and Responsibilities

1. Create a staging area through construction or property improvement if directed by: MHUM SCOPE (See Section J, Attachment J.1) and/or the COR through a work order. Details regarding the location of the staging area are specified in the requirements document (MHUM SCOPE or Work Order).
2. Staff and operate a staging area if directed by: MHUM SCOPE (See Section J, Attachment J.1) and/or the COR. Details regarding the location of the staging area are specified in the MHUM SCOPE.
3. Receive MHUs from FEMA or FEMA's designee.
4. Maintain the MHUs in the condition that they were transferred, or make authorized repairs to the MHU as necessary or as directed by the COR with written authorization from the CO.

C.1.10.4 Temporary Install Roles and Responsibilities

1. Perform site inspections as specified in this PWS and complete all deliverables or performance as specified in Section F: Deliveries or Performance.
2. Obtain all bonds (as applicable) and permits required for MHU installation. The expenses incurred for the bond and/or permit will be reimbursed by the Government if receipts documenting the expense are provided to the CO/COR.
3. Coordinate efforts with all Government entities as required by Federal, State, and local laws and regulations.
4. Obtain the landowners authorization for access to private sites (using FEMA's "Right of Entry" (ROE) form). The ROE form (Section J, Attachment J.41) will be signed by the landowner prior to the contractor conducting a site inspection. The contractor shall conduct site inspections as directed by the COR within the timeframes specified in this PWS and as described in Section F: Deliveries or Performance.
5. Install MHUs in accordance with the specifications in this PWS and as specified in Section F: Deliveries or Performance.
6. Work in conjunction with FEMA staff in assessing potential locations for group sites/commercial park expansions.
7. When the MHU is equipped with a residential fire sprinkler system ensure that the residential fire sprinkler system is installed and properly functioning in accordance with

the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (applies to all installation locations include private sites, commercial sites, group sites and semi-permanent/permanent installations) (Section J, Attachment J. 38). The contractor shall also ensure proper installation of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

8. Ensure that there is space available for the installation of the external residential fire sprinkler system's tank and pump system (TPS) and that the tank and pump system is installed and operating properly in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). The contractor shall also ensure proper installation of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.
9. Ensure that the key that opens the water heater closet, works the lock on the TPS interlock, and accesses the TPS is either maintained by the contractor for maintenance, turned over to the maintenance contractor, or turned over to FEMA.
10. FEMA may purchase MHUs from a retail source in order to expedite installation of temporary housing or to augment FEMAs MHU inventory. OTLs may have different installation requirements than FEMA MHUs (electrical junction box, water connections, blocking requirements, etc.). Prior to deploying an OTL for installation, the contractor shall provide a fixed price for each installation. OTLs will not require a TPS.

C.1.10.5 Permanent Install Roles and Responsibilities

1. Perform all items in C.1.10.4 (as applicable), in addition to the items below (as applicable).
2. Perform area-wide and site-specific inspections and/or assessments as specified in this PWS and complete all deliverables or performance as specified in Section F: Deliveries or Performance.

3. Coordinate efforts with all Government entities as required by Federal, State, and local laws and regulations.
4. The categories of services required may include: Site Preparation, Road Preparation, Construction of Septic System, Connecting Water with Rural Water when Feasible or - as an alternative - Drilling Wells, MHU haul; Existing Damaged Dwelling Materials Removal, Property Preparation for Hauling & Installation, Permanent MHU installation; and private sites in preparation for permanent installations as directed by the COR with written authorization from the CO.
5. In general, HUD regulations and current International Building Code (IBC) and/or current International Residential Code (IRC) shall be utilized as applicable.
6. If work is to be conducted on a Native American Reservation, the following provisions shall apply:
    a. All employees of the FEMA contractor are required to attend a Cultural Awareness / Archaeological Site / Traditional Use Properties Identification training and orientation prior to beginning work at the Reservation. The contractor project management and quality control staff shall also be required to attend Environmental Awareness training and orientation prior to beginning work at the Reservation. These awareness trainings and orientations are applicable across and throughout the Reservation, and at each Reservation property in accordance with the Tribal Historic Preservation Office (THPO) (or equivalent) for sacred sites, traditional cultural properties, traditional use properties, archeological sites, historic Tribal sites, unmarked burial sites, and medicine plants.
    b. The Tribal Employment Rights Office (TERO) (or equivalent) ordinances and regulations apply to contractors working for FEMA on the reservation. TERO ordinances/regulations may be applicable to the contractor performance of the hauling and installation mission for: TERO core-crew employment preference, fees and penalties, reporting, compliance planning and surveillance, hiring.
    c. Compliance with THPO requirements shall be included in the contractor's quality control plan and field process(es) as applicable.
    d. Tribal ordinances and regulations may limit all non-tribal personnel on the reservation for contract work during evening/night, or other specific hours. The contractor is responsible to follow the ordinances and regulations on the reservation as they apply to TERO and notify the COR in writing immediately.
    e. Use Local subcontractors to the maximum extent practicable as applicable to the TERO. Work done on Tribal Land is subject to TERO rules and procedures. The contractor must contact the TERO office prior to initiating work.

C.1.10.6 Maintenance Roles and Responsibilities

1. Perform MHU maintenance as specified in this PWS and as specified in Section F: Deliveries or Performance.
2. The contractor will not be required to make service calls for issues that occupants are generally responsible for such as changing light bulbs, maid service, washing windows, changing curtains, and changing linen for occupied units, etc. However, lock out service is a maintenance responsibility of the contract.
3. Provide and perform maintenance activities for a base period specified in the MHUM SCOPE (See Section J, Attachment J.1). These services may be extended under additional task orders or extensions by the Government.
4. Ensure the proper maintenance of the Residential Fire Sprinkler System and the External Tank and Pump System in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38) and the *TPS Monthly Maintenance Checklist* (Section J, Attachment J. 58). The contractor shall also ensure proper maintenance of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.1.10.7 Deactivation Roles and Responsibilities

1. Perform MHU deactivation as specified in this PWS and as specified in Section F: Deliveries or Performance.
2. Obtain all bonds (as applicable) and permits required for unit deactivation. Fees will be reimbursed at actual expense by the Government if receipts documenting the expense are provided to the COR.
3. Take possession of and remove all material used to install the MHU.
4. Transport the MHU to a destination as directed by the COR.
5. Ensure that, during the removal of the MHU and upon the completion of the removal of the MHU that the site is safe and secure.
6. Properly deactivate the Residential Fire Sprinkler System and the External Tank and Pump System in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). The contractor shall also ensure proper deactivation of the RFSS and TPS in accordance with

the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. Recover the External Tank and Pump System so that it can be reused by FEMA if instructed by the COR.

C.1.10.8 Commercial Park Expansion Roles and Responsibilities

1. Perform commercial park expansion as specified in this PWS and as specified in Section F: Deliveries or Performance.
2. Provide professional, courteous, and timely customer service (to include contractor staff, subcontractors, and representatives) with flexible and transparent program management to ensure all required work is completed.
3. Perform work and task order activities in accordance with all timetables and schedules.
4. Account for, track, and maintain any GFE, if applicable.
5. Provide a report to the COR on GFE disposition and status.
6. Provide reports and ensure that all reports meet the information needs specified by Section F: Deliveries or Performance and any additional information requested by the COR.
7. Maintain accurate records and provide all documents as required in the contract or task order.
8. Ensure that the commercial park expansion design can accommodate the placement of the Residential Fire Sprinkler System's External Tank and Pump System in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide*. The contractor shall also ensure that the design is in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.1.10.9 Group Site Construction Roles and Responsibilities

1. Perform group site construction as specified in this PWS and as specified in Section F: Deliveries or Performance.
2. Provide all materials, labor, equipment, and services necessary to successfully complete the mission at hand.
3. Adhere to the subcontracting plan, and use local subcontractors to the maximum extent possible. This plan is required to be provided to the COR within the timeframe specified in Section F, Areas #1 and #54.
4. Perform work and task order activities in accordance with all timetables and schedules.
5. Account for, track, and maintain any GFE, if applicable.
6. Provide a report to the COR on GFE disposition and status.
7. Provide reports, ensure that all reports meet the information needs specified by Section F: Deliveries or Performance and any additional information requested by the COR.
8. Maintain accurate records, and provide all documents as required in the contract or task order.
9. Ensure that the group site design can accommodate the placement of the Residential Fire Sprinkler System's External Tank and Pump System in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide*. The contractor shall also ensure that the design is in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.1.10.10 Readiness and Capability/Capacity Roles and Responsibilities

1. Full and Open contractors shall be able to support and manage two simultaneous events where each event requires the construction of two group sites, the construction of two commercial park expansions, the installation and maintenance of not more than 4000 units, and the maintenance of two group sites.
2. Small business Haul & Install contractors shall be able to support and manage three simultaneous events that require the installation of a minimum of 249 units per event.

3. Small business Maintenance & Deactivation contractors shall be able to support and manage three simultaneous events where each event requires the maintenance and deactivation of at least 500 units, and the maintenance of two group sites.

C.1.10.11 RFSS/TPS Roles and Responsibilities

This is a role and responsibility for all contractors. Contractors shall have appropriate staff to install, maintain, and deactivate Residential Fire Sprinkler Systems (RFSS) and Tank and Pump Systems (TPS). See Section J, Attachment J.46 for MHU RFSS/TPS contractor qualifications.

C.1.11 FEMA Roles and Responsibilities

The SCOPE of services provided by FEMA may vary based on the need of the event, and SCOPE of services provided by the contractor or other Federal agencies. In order to support contractor activities related to haul, staging, installation, maintenance, and deactivation responsibilities, FEMA shall perform the following tasks.

1. Identify potential lots and pads for unit installation on private and commercial sites.
2. Provide MHUs.
3. Identify the number of units to be installed.
4. Obtain the commercial pad lease for commercial sites.
5. Obtain leases for land needed for commercial park expansion and group sites.
6. Provide locations for semi-permanent/permanent installation.
7. Identify the potential occupants for the MHUs.
8. Identify the location to pick-up, transport, and install the MHUs.
9. Provide staff as needed at staging areas to inspect and receive units unless contractor is operating the staging area. Provide the contractor a work station at the JFO (if space is available) with computers (GFE) that have access to HOMES behind the FEMA firewall. The contractor is responsible for ensuring their staff has a place to work successfully outside of space at the JFO dedicated for HOMES access. The contractor shall provide staffing to support this requirement as needed to complete their mission.
10. Address domestic problems, disruptive tenants, and/or tenants refusing service.
11. Accept MHUs from the contractors`.
12. Identify and/or issue Site Feasibility Inspection Reports to the contractor to be completed as specified by the COR.
13. Identify units for cleaning, maintenance, deactivation, or repositioning. The COR will

inform the contractor in writing of the units assigned to the contractor for deactivation purposes.

14. Provide a list of all features required to be incorporated in the design of staging areas, commercial park expansions and group sites. Failure to list a feature does not excuse the contractor from providing a fully functional design that complies with contract requirements.

15. Provide External Tank and Pump Systems for Residential Fire Sprinkler System equipped MHUs.

C.1.12 CLIN Numbering for Option Years

This PWS includes CLIN numbers for the base year of the Log HOUSE contract. All CLINs in the base year start with the number 0. CLINs for the option years have the same work description; however, option year CLINs begin with the option year number.

CLIN# in PWS	Base Year CLIN	Option Year 1 CLIN	Option Year 2 CLIN	Option Year 3 CLIN	Option Year 4 CLIN
0001	0001	1001	2001	3001	4001

C.1.13 Request to Change Technical Requirements

The following procedure will be used when making a request for a change in any of the technical requirements described in this contract. Contractors shall ensure that any request for change addresses all of the points listed in the table below and that the contractor clearly identifies how they are addressing each point. This Request to Change shall be submitted in writing to the CO and COR for review and approval. FEMA will not accept any requests for changes that do not include the documentation described below. Additionally, requirements deemed to negatively impact contract performance, unit performance or that may adversely affect occupant safety, will not be approved. If there is a price/schedule trade-off, the contractor shall address how that tradeoff benefits the disaster survivor and FEMA.

Documentation Required	
Justification	1. A statement listing the reason that a request to change is being made. Include a description of the original requirement and the proposed alternative. 2. A copy of the page(s) from the contract where the original requirement is located with the subject requirement highlighted.
Safety	3. If applicable, provide the material safety data sheet (MSDS) for the original material. 4. If applicable, provide the MSDS for the substitute material. 5. Letter from an accredited 3rd party expert stating: • How the proposed substitution meets the original requirement(s) of the solicitation.

	• List of all potential benefits and detriments of the proposed substitution to unit performance and occupant safety.
Price/ Timeliness	6. How does the proposed substitution affect the overall price? (List the original unit price vs. the new unit price) 7. A statement describing how the substitution could adversely or positively affect the schedule.

Section C.2 Acceptance, Transportation and Staging

C.2.1 Acceptance SCOPE

This section describes the contractor's duties and responsibilities related to accepting Government property in the form of MHUs, and transferring the MHUs back to the Government. This section only describes picking up MHUs at a staging or storage facility and not units that have been installed and are being transferred for maintenance. The SCOPE of services required by the Government, as specified in the MHUM SCOPE (See Section J, Attachment J.1), will identify the points at which the MHU will be transferred to the contractor and back to the Government.

C.2.2 Acceptance Requirements

The contractor shall perform inspections and acceptance of all MHUs at the FEMA designated pick-up point. This may include: when picking up the unit from the FEMA MHSS for transportation; when receiving the MHU at the MHSA; when picking up the MHU from the MHSA and transporting to the installation site; when transporting the unit between installation sites; and when transporting the unit back to MHSA or MHSS following deactivation.

If FEMA changes the location of the staging area or pick up point, the COR will provide the contractor with advanced notice of this change in writing. The contractor will use a FEMA Form for unit acceptance as specified in Section F: Deliveries or Performance Section F.6, Area #4. The contractor shall make an independent determination that the units are suitable to be installed and designated Ready For Deployment (RFD).

C.2.3 Transportation SCOPE

This section describes the duties of the contractor in transporting MHUs from the MHSS to an MHSA, transporting units from the MHSA to the installation site, transporting the MHU from one MHSA to another MHSA, and transporting the MHU from the installation site to the Government, either at a MHSA or MHSS. On limited occasions the Government may transport the MHU directly

to the installation site. The contractor will know in advance from where and to the MHU will be transported.

C.2.3.1 Transportation Requirements

FEMA may issue work orders to the contractor for transportation of the following types of MHUs: Manufactured Homes (MH), Park Models (PM) or Travel Trailers (TT). The contractor shall provide all permitting, transportation, labor, equipment, and materials required to accomplish transportation of the MHUs. The contractor shall be responsible for all damages to the MHU while the unit is in their possession, unless they can demonstrate to the COR that the damage is a latent defect in the unit. The contractor shall ensure that all units in its custody are road worthy. The contractor's transportation work may be to, from, and/or between Manufactured Housing Storage Sites (MHSS); installation addresses; Manufactured Housing Staging Areas (MHSA); manufacturer's facilities; or other locations.

The contractor shall be responsible for the replacement of all tires and axles while the MHU is in their possession unless the replacement of tires and axles can be demonstrated to be a result of a manufacturing defect, i.e., axle improperly aligned.

The contractor is required to send a daily list of drivers to the facility where they will be picking up the MHU in accordance with Section F, Area #87.

Payment for transportation permits is CLIN # 0002AA.

C.2.3.1.1 Transportation Mileage included with Basic Installation

Installation Mileage of less than or equal to 100 miles

Payment for work completed under this section for MH/PM is included in CLIN # 0004AC (private sites).

Payment for work completed under this section for TT is included in CLIN # 0004AE (private sites).

Payment for work completed under this section for MH/PM is included in CLIN # 0004AK (commercial/group sites).

Payment for work completed under this section for TT is included in CLIN # 0004AM (commercial/group sites).

C.2.3.1.2 Transportation Mileage not included with Basic Installation

Installation Mileage greater than 100 miles

Payment for work completed under this section for MH/PM is CLIN # 0002AI.

Payment for work completed under this section for TT is CLIN # 0002AH.

C.2.3.1.3 Transportation Mileage for Non-installation Short Hauls

Short Haul Ground Mileage for Towing for non-installation from a FEMA dispatch point to a FEMA receiving point 100 miles or less.

Payment for work completed under this section is CLIN # 0002AE.

C.2.3.1.4 Transportation Mileage for Non-installation Long Hauls

Long Haul Ground Mileage for Towing for non-installation from a FEMA dispatch point to a FEMA receiving point greater than 100miles.

Payment for work completed under this section is CLIN # 0002AG.

C.2.3.1.5 Transportation Heavy Tow

Heavy Tow: The contractor shall furnish appropriate equipment that may be needed to transport an MHU (MH/PM/TT) or other prefabricated unit on a designated site. Heavy Tow is included as part of Basic Installation.

C.2.3.1.6 Transportation Repairs

Transportation Repairs as required by the COR in writing prior to any work being done. COR approval is required. CO approval is required if the repairs are greater than $3,500.

Payment for work completed under this section is CLIN #0002AB.

C.2.3.1.7 TT Transportation

Ground mileage for towing a TT from point A to point B for non-installation.

Payment for work completed under this section is CLIN # 0002AC.

C.2.3.1.8 Transportation Miscellaneous

During the “transportation” of an MHU there may be issues that cannot be foreseen but are required to complete the “transportation”. This CLIN is only to be used if the work required does not fit within the definition of any other “transportation” CLIN. The contractor shall develop a price proposal, which includes all expenses related to the unforeseen work and present the estimate to the CO/COR for review. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under this section is CLIN # 0002AJ.

C.2.4 Staging SCOPE

This section describes the duties and responsibilities of the contractor to operate a staging area as part of this contract. MHSA is an area where MHUs and Tank and Pump Systems (TPSs) are received after long distance hauling and held safely and securely until dispatched for installation. FEMA may require the contractor to operate a MHSA at any point during a task order including prior to and during installation, during maintenance and during deactivation. MHSA shall be operated as described in Section C.2.4.1 no matter when the contractor operates the MHSA.

The staging area shall be a relatively level, secure, well-drained site with adequate ingress and egress available. If an adequate staging area is not readily available for use without improvements, FEMA may require one be constructed as part of this contract.

C.2.4.1 Staging Requirements

The contractor shall receive MHUs at the MHSA from FEMA Logistics or other sources indicated by FEMA. Other sources may include the contractor's own organic equipment source, a different contractor, or directly from the manufacturer. The contractor shall inspect MHUs upon receipt. All damage shall be noted on a FEMA Form as specified in Section F: Deliveries or Performance, Section F.6, Area #4.

In order to receive MHUs and TPSs, the contractor shall perform the following tasks, as specified by the COR and necessary to ensure site security and safety:

C.2.4.1.1 Receiving the MHU or TPS at the MHSA, and cross referencing the associated FEMA Form as specified in Section F: Deliveries or Performance, Section F.6, Areas #4, #5, #6, to ensure the work requested by the Government as well as the inventory in possession of the contractor is delivered as required and in the condition received.

C.2.4.1.2 Designating where the units are parked. The contractor will design and operate the MHSA to provide for optimum utilization of available land area. The parking design shall incorporate simplicity, ease of maneuverability, avoid unit damage, and provide sufficient space for performing inspections and making repairs.

C.2.4.1.3 Ensuring proper storage of the units. The contractor will inform drivers where to park the units within the designated location, and check the unit information with the transportation documentation.

C.2.4.1.4 Receiving and inspecting units for damage. The contractor will inspect the unit when it arrives at the MHSA. Any damages shall be annotated and provided to FEMA's designated representative prior to FEMA signing for acceptance of the unit. The

contractor shall forward any requisite documentation to the FEMA designated representative for acceptance and approval.

C.2.4.1.5 Perform visual inspections of each TPS in accordance with MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide. The contractor shall also ensure proper visual inspections of each TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. Document TPS inspections using TPS Visual Inspection Checklist.

C.2.4.1.6 Perform and document TPS Acceptance Testing, in accordance with the Tank and Pump System (TPS) Acceptance Test Procedures (Section J, Attachment J.39) if directed to do so by FEMA.

C.2.4.1.7 Maintaining an up-to-date list of unsuitable MHUs and TPSs as specified in Section F: Deliveries or Performance, Section F.6, Area #7.

C.2.4.1.8 Updating and maintaining the receiving logs. Copies of the reports and documentation will be provided to the FEMA designated representative as indicated in Section F: Deliveries or Performance, Section F.6, Area #8. These reports generally track the number of MHUs and TPSs received at the staging area, and report on the status of any MHU in the staging area.

C.2.4.1.9 Dispatching MHUs and TPSs based on work orders issued for MHU installation. This includes ensuring that the MHU and TPS dispatched meets all of the requirements outlined in the work order for unit type and destination. The contractor shall assist with identifying and preparing for expedited and accurate unit dispatch activities that meet operational priorities. Documentation will be provided to the FEMA designated representative as indicated in Section F: Deliveries or Performance, Section F.6, Area #6.

C.2.4.1.10 Verifying the dispatch documentation, and escorting the driver to the appropriate unit. The contractor shall verify that the appropriate unit is assigned and retain a copy of the paperwork with the printed name and signature of the driver for the unit folder. The Contractor will ensure that units are not dispatched without appropriate documentation, such as the installation work order from FEMA.

C.2.4.1.11 The contractor shall maintain a computerized inventory of all MHUs and TPSs in the contractor's possession. This inventory shall be capable of producing reports per the request of the COR and as indicated in Section F: Deliveries or Performance, Section F.6, Area #6. Additionally, if the contractor designates a MHU or TPS as unsuitable for installation, the contractor shall provide written documentation noted on the FEMA Form specified in Section F: Deliveries or Performance, Section F.6, Area #7, and include photographs supporting the rejection.

Payment for work completed under this section (C.2.4.1.1 through C.2.4.1.11) is CLIN # 0002AK.

C.2.4.1.12 Performing maintenance and repair activities related to transportation damage at the staging area(s), if required. (This task may be included even if the contractor is not operating the staging area.)

Payment for work completed under this section (C.2.4.1.12) is CLIN # 0002AN.

C.2.4.1.13 Managing and ensuring the security of the MHUs while operating the staging area.

Payment for work completed under this section (C.2.4.1.13) is CLIN # 0002AL.

C.2.4.2 Staging Miscellaneous

C.2.4.2.1 Staging Area Miscellaneous

During the staging of an MHU there may be issues that cannot be foreseen in advance but are required. This CLIN is only to be used if the work required does not fit within the definition of any other "staging" CLIN. The contractor shall develop a price proposal, which includes all expenses related to the unforeseen work and present the estimate to the CO/COR for review. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under this section is CLIN # 0002AP.

C.2.4.2.2 Staging Area TPS Testing

C.2.4.2.2.1 TPS Set-up

Work performed in this area is to set-up an area to be used for testing Tank and Pump Systems (TPS) at the staging area. This work area is only to be used if an appropriate existing space

within the staging area cannot be found. The test area needs to accommodate the TPS test procedures.

Payment for work completed under this section is CLIN #0002BX.

C.2.4.2.2.2 TPS Test Operations

Work performed in this area is in accordance with the *TPS Acceptance Test Procedures*, provided in Section J, Attachment J.39).

Payment for work completed under this section is CLIN #0002BZ.

C.2.4.3 Staging Area Feasibility, Improvement, Design, and Construction

C.2.4.3.1 Staging Area Feasibility

C.2.4.3.1.1 Tier One Site Assessment

Tier One Site Assessment is a windshield identification of available land for Staging Area site development. A report shall be generated and submitted to the COR that includes but is not limited to: *Site Photo(s)*, *Site Name, Site Location*, and *County* where the site is located, *GPS Coordinates* at the street, *Site Characteristics* that include site vegetation cover, *Current and Past* site use, *Wetlands* visual inspection, *Site Utilities* that include the availability and distance of water, sewer and power sources, identify *local Zoning*, *Site Pros* that outline the positive features and advantages of using the site, *Site Cons* that point out the negative features that would pose a challenge to construction, *Site Size*, *Number of MHUs* that can be staged on the site, and *Owner Contact Information*. Include a section as to the feasibility or infeasibility of using the site. This assessment is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #43.

Payment for work completed under this section is CLIN #0002AQ.

C. 2.4.3.1.2 Floodplain Evaluation

Use local floodplain information and Flood Insurance Study (FIS) maps to determine what floodplain designation covers the identified site. Under no circumstances shall a staging area be located within a floodway or coastal high hazard area ("V" Zone). Generate a report and submit to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #44.

Payment for work completed under this section is CLIN #0002AS.

C. 2.4.3.1.3 Tier Two Site Assessment and Report

Verify land ownership, verify that the utilities observed during the Tier One Assessment are adequate in supporting the staging area operation, or outline what shall be accomplished for the utilities to be adequate. Generate a report and submit to the COR per the established timeline in Section F, Area #45. Include any information on the Tier Two Report that was not identified but required by the Tier One Report.

Payment for work completed under this section is CLIN #0002BA.

C.2.4.3.1.4 Environmental Planning and Historic Preservation Support NEPA

C.2.4.3.1.4.1 FEMA frequently conducts environmental and historical preservation review through completion of an expedited Environmental Assessment (EA). This is a National Environmental Protection Act (NEPA) documentation process that examines a wide variety of potential impacts on environmental and historic resources and addresses the possible presence of hazardous materials and natural hazards. The NEPA process also requires public input into the site selection process.

C.2.4.3.1.4.2 FEMA may task the contractor with assisting with the documentation of the environmental clearance of the staging area. Generate a report and submit to the COR per the established timeline in Section F, Area #46. Once complete and reviewed, FEMA would approve and sign the environmental clearance, usually an EA. The contractor may be tasked with the following.

C.2.4.3.1.4.2.a. Reviewing the site for compliance with a wide variety of environmental/historic preservation laws, policies, and executive orders such as the National Historic Preservation Act, Endangered Species Act, Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), and Executive Order 12898 (Environmental Justice).

C.2.4.3.1.4.2.b. Coordinating with Federal, Tribal, State and local environmental and historic preservation officials and organizations to provide information on the selected site.

C.2.4.3.1.4.2.c. Gathering information such as the site address and latitude/longitude in decimal degrees, drawings that show the boundary of the proposed staging area site and how the site relates to its surroundings, topography, photographs of the entire site and any structures on the site (photos shall provide an understanding of the 360 degree view of the site), endangered

species lists (if any), identifying any special resources such as wetlands, and past uses of the land.

C.2.4.3.1.4.2.d. Compiling copies of other relevant information such as existing environmental assessments, remediation reports, permits, historic property designations or surveys, or archaeological surveys.

C.2.4.3.1.4.2.d.i. Generate a report addressing the items needed for a comprehensive environmental assessment and not otherwise included in other CLINs. This will include research and investigations into endangered species and wetlands. The report is to include information such as the site address, latitude/longitude in decimal degrees, drawings that show the boundary of the proposed staging area site, and how the site relates to its surroundings, topography, photographs of the entire site, any structures on the site, and special resources on the site, such as woodlands. Generate a report and submit to the COR per the established timeline in Section F, Area #49.

Payment for work completed under this section (C.2.4.3.1.4.1 through C.2.4.3.1.4.2.d.i) is CLIN # 0002BG.

C.2.4.3.1.5 Historical Preservation Survey

Conduct research on each site in accordance with preservation laws, policies, and executive orders such as the National Historic Preservation Act. Coordinate with Federal, Tribal, State, and local environmental and historic preservation officials and organizations to obtain information on the selected site(s). Compile copies of historic property designations or surveys, or archaeological surveys. Generate a report and submit to the COR per the established timeline in Section F, Area #47.

Payment for work completed under this section is CLIN #0002BC.

C.2.4.3.1.6 Environmental Database Search

Conduct a database search on each site to identify past uses of the site, any existing remediation reports, and any information related to potential hazardous materials. Generate a report and submit to the COR per the established timeline in Section F, Area #48.

Payment for work completed under this section is CLIN # 0002BE.

C.2.4.4 Staging Area Design and Construction

C.2.4.4.1 Staging Area Design - General

C.2.4.4.1.1 Site Specific Items

Specific items of work particular to each individual staging area site will be specified at the time of work order issuance. Site specific items are identified by FEMA using the "Definable Features Checklist- Staging", Attachment J.30. During each phase of design the contractor shall, unless directed in writing by the COR, provide the price for each of the site specific items.

C.2.4.4.1.2 Design Considerations

The contractor shall design the sites to effectively utilize the full capacity of each site, and account for disaster-specific requirements as defined by FEMA. The following items will be taken into consideration:

1. Each staging area site shall be designed as a stand-alone package.
2. Work shall be scheduled to meet the required deadlines. Phasing of construction may be requested if deemed necessary.
3. Work may be performed simultaneously at multiple sites to meet schedule requirements, including staging areas, commercial park expansions, group sites and private sites.
4. Local fire code may dictate allowable distance between staged units.
5. If a staging area site is to be constructed on a plot of land that has an existing approved utilization plan, use the designated utility corridors to the extent possible, and align the design accordingly.
6. Supporting calculations for the drainage, power, and lighting shall be submitted.
7. Site lighting shall include dusk to dawn lighting and provide one-foot candle lighting along work areas and roadways.
8. The site shall be graded to be free draining for a 10-year storm event or to meet local requirements. The drainage plan shall include storm water retention or detention ponds if required by the Authority Having Jurisdiction (AHJ).
9. Local requirements are to be taken into consideration for zoning, buffer areas, tree preservation areas, and other conservation areas.
10. Ensure that the number and location of fire hydrants are appropriate and conform to the local, State, and the National Fire Protection Association (NFPA) code. The most stringent code shall govern. The road layout shall also meet the standards of the local fire officials.
11. All ingress and egress roads shall have a grade sufficient to allow trailer access. Consideration shall be given to setbacks required by local authorities.

12. A traffic control plan shall be included at each level of design to address both interior traffic and access onto and from public roads. Multiple ingress and egress routes to the site may be provided.
13. Security planning shall be included at each level of design, possibly including fencing, gates, and security personnel support structures.
14. Site management considerations shall also be included at each level of design.

C.2.4.4.1.3 Requirements Meeting

1. The contractor shall meet with the Government to review and define staging area site requirements at the time that the Government exercises the option to design and build a staging area site.
2. The contractor shall assist the Government in defining stakeholders, such as State and local governments, land owner, and utility providers who may have an interest in the outcome of the staging area design.
3. This meeting shall provide the basis for the conceptual design package that the contractor submits to the Government, and can be utilized to facilitate necessary site approvals.

C.2.4.4.2 Staging Area Design - Conceptual Design Package

At the direction of the COR and having been provided a Definable Features Checklist (See Section J, Attachment J.27) from the COR, the design process will commence. This CLIN covers all design activities as outlined under the contract section "Staging Area Design" not to exceed 25 percent design. This is defined as a rough layout with utilities, transportation rights of way, staging and operations locations, as well as an estimate of site preparation (quantity take-off) and an order of magnitude estimate to allow the FEMA team to prepare for funding support.

C.2.4.4.2.1. The contractor shall provide to the COR three copies and a pdf version of a completed conceptual design package within two (2) operational days after site approval (See Section F, Area #50).

C.2.4.4.2.2. The Conceptual Design Package shall consist of a conceptual layout overlaid on an aerial photo. The layout will include staging locations, operations space, maintenance and management locations, road locations, utility corridors, and other features as requested by FEMA.

C.2.4.4.2.3. Other deliverables include the preliminary quantity take-off and an order of magnitude price estimate.

Payment for work completed under this section (C.2.4.4.2.1 through C.2.4.4.2.3) is CLIN # 0002BH.

C.2.4.4.2.4 Conceptual Design Package – Redesign

During the conceptual design process FEMA may request that the contractor redesign the staging area to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the conceptual design.

Payment for work completed under this section (C.2.4.4.2.4) is CLIN # 0002BJ.

C.2.4.4.3 Staging Area Design - 50 Percent Design Package

At the direction of the COR and having been provided a definable features check sheet (See Section J, Attachment J.27) from the COR, the design process will continue. This CLIN covers all design activities as outlined under the contract section "Staging Area Design" from concept to 50 percent design package. The 50 percent design shall include an update of all documents submitted for the conceptual design. This CLIN includes site surveys for purposes of identifying the topography and boundaries for preparing the design. The survey shall be submitted as a separate document as part of the 50 percent design package. This CLIN also includes other deliverables such as the preliminary project schedule.

1. The contractor shall submit three copies and a pdf version of the 50 percent design package to the COR within four (4) operational days of FEMA's approval of the conceptual package for site development (See Section F, Area #51). On a case by case basis, the contractor may submit a request to the COR in writing for a change to the required timeframe for the 50 percent design package.
2. The contractor shall work with FEMA to coordinate preliminary design approval with State and local officials.
3. The contractor shall provide to the COR the following in the 50 percent design package for each site:
   a. Construction Timeline and Milestones
      i. Site development timeline
      ii. Critical path
      iii. Projected baselines and daily percentages of work to be completed
   b. Drawings**.** The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to:
      i. Specified infrastructure
      ii. Drainage control plan

iii. Traffic signs, pavement striping, street lighting, and fencing.

iv. Erosion and sediment control plan including retention ponds, water bodies, natural features and amenities, 100 year flood contours, and easements.

v. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

c. Other Submittals

i. Other Milestones and Timelines

ii. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

iii. Status of anticipated permits required, or copies of letters exempting this project from permit requirements.

iv. Specifically identify prices of add-on features for evaluation purposes. Make price saving recommendations as appropriate.

Payment for work completed under this section (C.2.4.4.3.1 and all subsections, except C.2.4.4.3.1) is CLIN # 0002BL.

C.2.4.4.3.1 50 Percent Design Package – Redesign

During the design process FEMA may request that the contractor redesign the staging area to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 50% design.

Payment for work completed under this section is CLIN # 0002BN.

C.2.4.4.4 Staging Area Design - 100 Percent Final Design Package

This CLIN will be used if the decision is made to proceed with a 100 percent design. This CLIN covers all design activities as outlined under the contract section "Staging Area Design" for 100 percent design package. The 100 percent design package shall include an update of all documents submitted for the 50 percent design package. This CLIN also includes project schedule deliverables and other submittals.

C.2.4.4.4.1. The contractor shall submit the 100 percent design package to the COR and CO within two (2) operational days of the approval of the 50 percent design package (See Section F, Area #52). This design package consists of the final coordinated design and support plans and information. This will include all Federal, State, and local approvals.

C.2.4.4.4.2. The COR, and other representatives determined by FEMA, as well as State and local officials shall review the design package with the contractor. The contractor shall take note of any comments and recommendations, incorporate them into the design, and proceed with the final coordinated (100%) design. The contractor's final drawings shall be sealed by a professional engineer who is licensed to practice in the State where the site will be constructed. Three full-size copies, three half-size copies, a pdf, and vector version of the design shall be submitted. Electronic copies of the pdf and vector versions shall be delivered to both the CO and the COR. The Vector version is defined as Microstation as well as AutoCAD.

C.2.4.4.4.3. The phasing strategy and schedule shall be submitted with the 100 percent design for Government review.

C.2.4.4.4.4. The contractor shall not proceed with the construction until the CO provides a Notice to Proceed (NTP).

C.2.4.4.4.5. The contractor shall provide to the COR and CO the following in the 100 percent design package for each site:

C.2.4.4.4.5.a. Construction Timeline and Milestones. Project schedule timeline, with tentative start date (tentative until NTP issued).

C.2.4.4.4.5.b. Risk Management Plan. The contractor, in addition to providing a project schedule with critical path identified, shall analyze their future activities and note key milestones, processes, or events that threaten the schedule. Milestones such as ordering of product, deliveries, preparation of project area for subcontractor mobilization, expected weather events, and utility notification and connection are examples of critical milestones that may not be on the critical path, but could impact the progress or perceptions of progress. These factors shall be listed in matrix or narrative documents, in the format of Activity – Challenge – Discussion – Resolution/Action as the project Risk Mitigation Plan. Include a section in the plan for consideration of risks to personnel and property due to safety considerations. In the event that the project schedule shows a delay to the work in progress, the contractor shall provide the COR, within 24 hours of the request, a plan that shows how the schedule will be recovered.

C.2.4.4.4.5.c. Quantities for Construction. Based on the definable features table in Section J: Attachment J.27, the recommended items for quantity take off are shown, but not limited to, those listed in the table.

C.2.4.4.4.5.d. Price Estimate.

C.2.4.4.4.5.e. Drawings. The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to, infrastructure, roads, and fencing.

C.2.4.4.4.5.f. Drainage control plan.

C.2.4.4.4.5.g. Traffic signs, pavement striping, street lighting, and fencing.

C.2.4.4.4.5.h. Erosion and sediment control plan including retention ponds, water bodies, natural features and amenities, 100 year flood contours and easements.

C.2.4.4.4.5.i. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

C.2.4.4.4.5.j. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

C.2.4.4.4.5.k. All permits and status of permits required, or copies of letters exempting this project from permit requirements.

Payment for work completed under this section (C.2.4.4.4 and all subsections, except C.2.4.4.4.1) is CLIN # 0002BP.

C.2.4.4.4.1 100 Percent Design Package – Redesign

During the design process FEMA may request that the contractor redesign the staging area to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 100% design.

Payment for work completed under this section is CLIN # 0002BQ.

C.2.4.4.4.2 Staging Area Design - Construction Proposal Price Breakdown

The contractor shall furnish a price breakdown, including itemization in sufficient detail to permit an analysis of all expenses, such as:

1. Material
2. Labor
3. Equipment
4. Subcontracts
5. Overhead
6. Profit
7. General and Administrative

The price breakdown shall be included with both the 50 Percent and 100 Percent Design Packages as specified in Section F, Areas 51 and 52 respectively.

Payment for work completed under this section for the 50 Percent Design Package is

Payment for work completed under this section for the 100 Percent Design Package is CLIN # 0002BP.

C.2.4.4.6 Staging Area Design - Construction Timeframes

1. Timeframe for Mobilization. Upon issuance of the NTP, the contractor shall mobilize in accordance with the mobilization timeframe submitted with their construction proposal.
2. Timeframe for Staging Area Site Completion. The staging area site(s) shall be completed within timeframe awarded in the task order.

Payment for work completed under this section for the 50 Percent Design Package is

Payment for work completed under this section for the 100 Percent Design Package is CLIN # 0002BP.

C.2.4.4.7 Staging Area Construction

These CLINs include all work required to complete a fully developed and functional staging area in accordance with the references and requirements described in this contract. (These CLINs are bid after site design is complete and will be negotiated between FEMA and the contractor to become a fixed price based on the contractor's design.)

The following areas of the PWs describe the requirements for Staging Area Construction.

Section	Title	CLIN #
C.2.4.4.7.1	Coordination of Site and Utility Work	*0002BR*
C.2.4.4.7.2	Work Limits	*0002BR*
C.2.4.4.7.3	Surveying	*0002BR*
C.2.4.4.7.4	As-Built Field Surveys	*0002BR*
C.2.4.4.7.5	Temporary Construction Facilities for FEMA Personnel	*0002BV*
C.2.4.4.7.6	Debris Cleanup	*0002BR*
C.2.4.4.7.7	Site Grading	*0002BR*
C.2.4.4.7.8	Site Utility Infrastructure	*0002BR*
C.2.4.4.7.9	Water Distribution System	*0002BR*
C.2.4.4.7.10	Electrical Service	*0002CC*

C.2.4.4.7.11	Roads, Surfaces and Pads	*0002BR*
C.2.4.4.7.12	Staging Area Construction Site Fencing	*0002BR*
C.2.4.4.7.13	Additional Site Work	*002BT*
C.2.4.4.7.14	Staging Area Construction-Related Bonds	*0002CA*

C.2.4.4.7.1 Coordination of Site and Utility Work

1. All efforts shall be effectively coordinated with all Government entities, as required by Federal, State and local laws and regulations.
2. The contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and re-establish service if applicable.
3. Utility services shall not be interrupted except for brief periods if necessary to facilitate cut-ins.
4. The contractor shall be responsible for all expenses related to protecting existing utilities from damage as it relates to work performed under this contract. Coordinate utility installations with the local communication companies so as to not impede completion deadlines.

C.2.4.4.7.2 Work Limits

The construction work limits (CWL) as delineated in the drawings shall define the boundaries of the finished staging area site and shall be the area in which the contractor will have full operational control. Any limited work limits (LWL) delineated in the drawings are meant to depict areas outside the finished staging area site which provide the contractor temporary access or other usages such as storage of materials. The LWL shall be returned to original conditions upon completion of the staging area construction, and such property will return to original usage.

C.2.4.4.7.3 Surveying

The contractor shall layout the work from established benchmarks. For each feature of work, field staking shall define area limits such that the COR can easily determine if alignment and/or limit adjustments need to be made.

C.2.4.4.7.4 As-Built Field Surveys

1. An as-built field survey of all utilities shall be conducted after completion of construction, in order to determine the final locations, elevations, and inverts of all features.

2. Three (3) sets of as-built drawings shall be provided to the COR and CO. A vector version shall also be provided to both the CO and COR. All surveys shall be completed per the timeline established in Section F, Area #53.

C.2.4.4.7.5 Temporary Construction Facilities for FEMA Personnel

At the discretion of the COR with authorization from the CO, the contractor may be required to furnish and install an office trailer complete with all utilities and restroom facility. Restroom facilities shall be appropriate for the construction site and be identical to those used by the contractor's construction management personnel.

C.2.4.4.7.6 Debris Cleanup

Construction debris, event debris, pre-existing site features, waste materials, packaging material, and the like shall be removed from the work site. The contractor shall sweep adjacent roadways to control dust and water at the site, if deemed necessary by the COR or as required by the condition of any assigned permits.

C.2.4.4.7.7 Site Grading

1. During construction, the lines and grades, including crown and cross slope indicated for the base course, shall be maintained by means of line and grade stakes placed by the contractor.
2. Adequate drainage (1% slope or greater) and erosion sediment control shall be provided during the entire period of construction to prevent water from collecting or standing on the area to be constructed. Roadways shall be crowned.
3. The surface of the top layer shall be finished to grade and cross section shown. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections.
4. Should the surface for any reason become rough corrugated, or traffic marked prior to completion, such portions shall be re-graded.
5. Grades shall be checked for low spots and depressions. All low spots and depressions shall be filled so the entire site has positive drainage.
6. All material placed as fill or backfill shall consist of mineral soils with no vegetative matter. Aggregate shall not be larger than three inches (3") in size. Unsuitable material shall be disposed of offsite.
7. Soil compaction testing is not required to provide an engineered solution for stabilization of the roads, trenches, and pads. Instead, liberal use of appropriate geotextile products

such as Tensar or equivalent shall be specified. Compaction equipment shall consist of steel-wheeled vibratory rollers, minimum 10 ton, or other approved equipment well suited to the soil type being compacted. Water flooding or jetting methods of compaction will not be permitted for any soil types.

8. Any excavation sub-grades that reveal soil conditions that are substantially different from the general site conditions (unstable, pump, rut excessively), or are unsuitable for proceeding with the work, shall immediately be reported to the COR. Soft or otherwise unsatisfactory material shall generally be removed and replaced with satisfactory excavated material or other approved material as directed.
9. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6”) and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Compaction will be completed once the COR designates that a satisfactory level of compaction has been reached. Generally, levels of compaction for under roadways shall be 100 percent for utility trenches and 80 percent for the rest of the site. The complete site will be compacted using a minimum of a 10 ton roller with three passes.
10. Excess material shall be stockpiled on site at a location directed by the COR.
11. All areas upon which aggregate is to be placed, including road sub-grades, shall be stripped six inches (6”) before the aggregate placement is started. Material shall not be placed on surfaces that are muddy, or where unsatisfactory material remains in or under the aggregate. The entire area that is stripped shall be rolled prior to the placement of the aggregate. Final grading of the site, including the roadways, will be such as to prevent the ponding of surface water.
12. For trenches in road sub-grades, common backfill above the bedding shall be placed in six inch (6") lifts and compacted with special purpose compaction equipment. Compaction equipment shall be selected to avoid damage to the pipe.

C.2.4.4.7.8 Site Utility Infrastructure

1. Materials and installation associated with site utility infrastructure shall be in compliance with all Federal, state and local requirements.
2. Pipe Bedding and Backfill.
    a. Reference to pipes shall include conduits, cables, or other utility systems. Appurtenant structures include manholes, catch basins, inlets, outlets, energy dissipaters, or similar structures.
    b. Bedding material shall consist of imported sand fill or gravel. Pipe bedding shall contain no more than 20 percent by weight passing the No. 200 sieve. The

maximum allowable aggregate size shall be one and one-half inches (1 ½") for gravity flow sewer and three-quarter inches (¾") for pressure pipe. If the bottom of the trench is soil, four inches of bedding will be required. If the bottom of the trench is rock, six inches of bedding will be required.

c. Unless otherwise indicated, trench excavation shall be by open cut except that short sections may be bored and jacked if the utility can be safely and properly installed and ground loss can be properly controlled. All excavation shall be constructed in accordance with the Safety and Health Requirements Manual (EM 385-1-1) and/or OSHA Standards (29 CFR 1926). Allowable trench widths, depths, side slopes, sheet and bracing requirements, and other considerations are given in the OSHA Standard; and an abbreviated version is given in the Safety and Health Requirements Manual.

d. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in a neat and orderly manner at a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or caving. Topsoil shall be stockpiled separately from suitable backfill material. Grading shall be done as needed to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation.

e. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Pipe shall rest on bedding material along its entire length.

C.2.4.4.7.9 Water Distribution System

1. Staging Area Water Supply. A connection to the municipal water supply may be required. If none is available, wells may need to be drilled. The contractor shall provide alternatives, prices and recommendations for the most price-effective options. The contractor shall coordinate the proper fittings, procedures and meters needed with the local water company.
2. Products. Pipes, fittings, valves, fire hydrants and components of potable water systems which come in contact with the potable water shall conform to NSF 71. Plastic piping system components intended for transportation of potable water shall comply with NSF 14 and be legibly marked with their symbol.
3. Supply and Distribution Lines: Piping for water distribution lines shall designed base on usage demand and sound engineering practices. Pipe shall be ductile iron, PVC, plastic filament-wound or centrifugally cast reinforced thermosetting resin.

a. **Cathodic Protection**: Cathodic protection shall be provided for all materials subject to corrosion, and shall comply with the provisions of the National Association of Corrosion Engineers (NACE) criteria and standards. All ferrous underground materials shall receive a protective coating with a coating efficiency of 90 percent after fifteen (15) years.

b. **PVC Plastic Pipe:** Pipe, couplings and fittings shall be manufactured, tested and delivered in accordance with AWWA C900. Pipe shall be Pressure Class 150 (SDR 18). All PVC piping shall be primed with a colored primer prior to cementing.

4. Valves: All valves, gate valves, and valve boxes shall be of a specification compatible with the public utilities in the area. Valve pits shall be constructed at locations indicated or as required. Water supply shut-off valves shall be easily accessible to the site manager.

5. Service Stops: All service lines shall include a one inch (1") curb stop (shutoff) valve. Service stops shall be water-works inverted-ground-key type, oval or round flow way, tee handle, without drain. All parts shall be of bronze with female iron-pipe-size connections or compression-pattern flared tube couplings, and shall be designed for a hydrostatic test pressure not less than 200 psi. All service stops and valves shall be provided with service boxes.

6. Fire Hydrants: Hydrants shall be dry-barrel type conforming to AWWA C502. Outlets shall have American National Standard fire-hose coupling threads. Working parts shall be bronze. Design, material, and workmanship shall be equal to the latest stock pattern ordinarily produced by the manufacturer. Fire hydrants shall be located and installed as designed. Each hydrant shall be connected to the main with a seven inch (7") branch line having at least as much cover as the distribution main. Hydrants shall be set plumb with the pumper nozzle facing the roadway, with the center of the lowest outlet not less than eighteen inches (18") above the finished surrounding grade. Not less than seven (7) cubic feet of free-draining broken stone or gravel shall be placed around and beneath the waste opening of dry barrel hydrants to ensure drainage. At concept, the contractor shall coordinate number and location of fire hydrants with local fire marshal.

7. Disinfection:

   Disinfection shall be in accordance with the authority having jurisdiction. If an authority having jurisdiction is silent then the contractor shall follow the steps listed below.

   a. Chlorinating materials shall conform to the following: Liquid chlorine, AWWA B301 and Hypochlorite, Calcium and Sodium: AWWA B300.

   b. Before acceptance of potable water operation, each unit of completed waterline shall be disinfected as prescribed by AWWA C751. After pressure tests have been

performed, the unit to be disinfected shall be thoroughly flushed with water. All entrained dirt and mud shall be removed before introducing the chlorinating material. The chlorinating material shall be liquid chlorine, calcium hypochlorite, or sodium hypochlorite, and shall provide a dosage of not less than fifty (50) ppm.

c. Valves on the lines being disinfected shall be opened and closed several times during the contact period, and the line shall then be flushed with clean water until the residual chlorine is reduced to less than one (1.0) ppm. During the flushing period, each fire hydrant on the line shall be opened and closed several times. From several points in the unit, the contractor shall take samples of water in proper sterilized containers. These samples shall be taken to a state-certified laboratory for bacterial examination. The disinfection shall be repeated until tests indicate the absence of pollution for at least two (2) full days. The unit shall not be accepted until satisfactory bacteriological results have been obtained.

8. Meters: Water meters, valve boxes and appurtenances may be installed in accordance with all local codes and shall meet the standards of the local municipality.

9. Winterization: When required, water lines shall be insulated with electric heat tape or other approved winterization treatment.

10. Placing and Laying: PVC pipe shall be installed and backfilled in accordance with *ASTM D 2774 - Recommended Practice for Underground Installation of Thermoplastic Pressure Piping*, and any additional State and local codes. Water-line materials shall not be dropped or dumped into the trench. The full length of each section of pipe shall rest solidly upon the pipe bedding, and pipes shall not be laid in water or when trench conditions are unsuitable for the work. Water shall be kept out of the trench until joints are complete. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no trench water, earth, or other substance will enter the pipes or fittings. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored. All lines are to be placed six inches (6”) below local frost lines.

11. Utility Separation: The water lines shall be spaced from sewer lines in compliance with all State requirements. The minimum horizontal separation between water and sewer lines shall be ten feet (10’). In the case of water and sewer lines crossing, the vertical separation shall be eighteen inches (18”) or more, and one (1) full length of water pipe shall be located so both joints will be above and as far from the sanitary sewer line as possible. Special structural support for the water and sanitary sewer pipes may be required. If the tolerances cannot be met, the pipes shall be sleeved or encased in concrete at the direction of the COR. Water lines shall not be laid in the same trench with sewer lines, fuel lines, or electric wiring.

12. Thrust Restraint: Plugs, caps, tees, and bends deflecting thirty (30) degrees or more, either vertically or horizontally, on waterlines four inches (4") in diameter or larger, and fire hydrants, shall be provided with thrust restraints.
13. Hydrostatic Test: The water line shall be tested by the contractor after the pipe is laid, the joints completed, and the trench partially backfilled. The hydrostatic test shall meet the requirements of the local public services jurisdiction. Be sure to check with local Public Service District for guidance on preferred manhole design.
14. References: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
    a. AMERICAN WATER WORKS ASSOCIATION (AWWA)
        i. AWWA B300 (1992) Hypochlorite
        ii. AWWA B301 (1992) Liquid Chlorine
        iii. AWWA C500 (1993; C500a) Metal-Sealed Gate Valves for Water Supply Service
        iv. AWWA C502 (1994; C502a) Dry-Barrel Fire Hydrants
        v. AWWA C651 (1992) Disinfecting Water Mains
        vi. AWWA C900 (1997) PVC Pressure Pipe and Fabricated Fittings, four inches (4") through twelve inches (12"), For Water Distribution
    b. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
        i. NFPA 24 (1995) Installation of Private Fire Service Mains and Their Appurtenances
        ii. NSF INTERNATIONAL (NSF)
        iii. NSF 14 (1998) Plastics Piping Components and Related Materials
        iv. NSF 61 (1999) Drinking Water System Components - Health Effects (Sections 1-9)

C.2.4.4.7.10 Electrical Service

1. General:
    a. The contractor shall provide all equipment, labor and supplies necessary to install metering/disconnect pedestals, electrical cabling, conduit and other ancillary equipment as shown on design plans. This shall include the delivery and installation of all systems necessary to meet this requirement including any and all procurements of permits and inspections by the local AHJ. The contractor shall also work closely with the electrical utility company for infrastructure installation coordination. Primary and

secondary electrical distribution to the meter shall be completed by the local electrical utility company in a separate contract.

b. The service entrance conductors from the meter to a 200A disconnect and from the 200A disconnect to the stub-up location at the specified portion of the staging area shall be single conductor cables, “triple rated” (wet/dry, flame retardant, direct burial). The service entrance conductors shall also be aluminum, XLP, USE-2, 600V rated. The minimum service entrance conductor sizes shall be three #4/0 and one #4 gnd. Ten feet of power cable shall be coiled up above the stub-ups. The conductors shall be marked with a uniform color code with colored polyvinyl “electrical” tape in the following manner:

    Hot 1: Red
    Hot 2: Black
    Neutral: White
    Ground: Green

    The service entrance conductors from the meter to the stub-up location shall be installed underground in minimum 2” schedule 40 PVC conduit. All PVC conduit joints shall be glued and secured with an approved standard product. The minimum burial depth shall be 36” or as approved by the local AHJ.

c. Two ground rods and grounding wiring shall be provided and installed. One shall be placed at the metering location and one near the stub-up location. The grounding rods, #4 bare copper wire and connections shall meet or exceed the local electric service utility and AHJ’s requirements. The grounding rods shall be minimum 5/8”, 10’-0” long, copper clad. The stub-up location shall include 5’-0” of #4 bare copper grounding wire with approved clamps to attach to the grounding rod and to the specified facility/fixture.

d. At locations where dissimilar metals are bonded (i.e. copper to aluminum) use a dielectric grease compound.

e. See contract drawings for additional details, equipment and requirements.

f. Due to the nature of this work with an accelerated schedule, alternate products may be used if the required equipment is not readily available, only if approved by the Contracting Officer.

g. The contractor shall connect the stub-up conduit to the staging area’s specified point of service entrance with liquid-tite flexible conduit and appropriate fasteners and terminate the service lateral on the terminals of the designated interior electric distribution panel or junction box depending on the design.

h. All exposed PVC conduit installed on poles shall be securely fastened with two-hole straps, a minimum of two per five-foot length or fraction thereof.

2. Electrical Utility Coordination:

   a. The contractor shall coordinate the electrical service installation process with the serving electric utility company. Before the system is energized, the contractor shall ensure all necessary lockouts are in place, and appropriate circuit breakers are off.

   b. The contractor shall install an electric meter base for the staging area, provided by the local utility company. If the meter base is not provided, the contractor shall provide and install a meter base approved by the local electric utility company/cooperative.

   c. Rebates offered by utility companies for usage offsetting installation fees shall be accounted for by the contractor and returned to the Government as a credit against the contract.

   d. At FEMA's direction, the contractor shall set up a utility account for site development until FEMA obtains the account after completion of site development. This includes a thirty (30) day transition after site completion. The price for the utility account will be reimbursed by the Government if receipts documenting the expense are provided to the COR.

3. Codes for Distribution: The electrical power distribution system shall be installed in accordance with all applicable requirements of the latest edition of the National Electrical Code (NFPA 70), including article 550 Part C, the National Electrical Safety Code, and the requirements of the local AHJ.

   a. All material shall be new and shall carry the UL label.

   b. Service equipment shall be installed in accordance with NFPA 70 article 550-23.

   c. There shall be no splices in the wiring between the load side of the service disconnects and the line side lugs on the load center.

   d. All services shall be grounded according to NFPA 70, article 250. A ground shall be carried to each panel.

   e. Conduit shall be securely attached to the electrical boxes in accordance with NFPA 70. Sweeps shall be used at the junction box and meter loop assembly.

4. Electrical Security Lighting: The contractor shall provide and coordinate installation of security lighting with the local utility company or provide by some other means as approved by the COR or the CO. The lighting shall provide light distribution along roadways, near operations, maintenance, and management areas, or as specified. The average illuminance value of these locations shall be no less than 1.0 foot candle. If the

lighting is connected to the local power grid, the contractor shall have an electrical engineer design the requirement and coordinate with the local power utility.

C.2.4.4.7.11 Roads, Surfaces and Pads

1. Road Materials: The aggregates for the surface and base course shall meet State or local standards but generally shall have no more than 20 percent fines and no more than 80 percent passing the one and three-quarter inch (1 ¾") sieve. A stabilization fabric or geo-textile fabric shall underlay the aggregate.
2. Paving (If Required)
    a. Roads, parking pads, and aprons shall be surfaced with asphalt pavement if so specified. Asphalt section thicknesses shall be a two inch (2") base and a one and one-half inch (1 ½) surface course. Mix design shall be formulated in accordance with State Department of Transportation (DOT)/Department of Highways (DOH) for municipal streets. Installation procedures shall follow State DOT/DOH guidelines.
    b. Pads and aprons shall be concrete, six inches (6") thick, with ultimate strength of 4000 PSI, with welded wire fabric if so specified. Aprons shall be large enough that the routine traversing of trucks shall bear mainly on the concrete rather than the adjacent surfacing materials.
    c. Concrete: All concrete shall have a minimum 28-day compressive strength of three thousand (3000) psi. Concrete shall be batched, delivered and placed in accordance with ACI 318 standards.
3. Compaction: All plant, equipment, and tools used in the performance of the work shall be subject to approval and shall be maintained in satisfactory working condition at all times. The equipment used for compaction shall meet the requirements of the referenced State standard specification sections. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6") and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Embankments and subgrades shall be kept crowned or sloped for drainage. All work shall implement best management practices for erosion control.
4. Preparation: All topsoil and surface material shall be removed and the sub-grade compacted prior to the placement of the filter or geo-textile fabric and aggregate base. There shall be no evidence of depressions from site equipment or excess rutting.
5. Finishing: The surface of the top layer shall be finished to grade, and the finished surface shall be of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for

any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be graded.

6. Testing: Coarse Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136. Fine Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136.
7. Fabric Placement: Placement shall be in accordance with manufacturer's recommendation.
8. Seeding Species and Rates: Seeding species and rates, if any, shall be specified to be compatible with local climate and soil conditions. Due consideration shall be given to the longevity of plants, resistance to traffic and erosion, and attraction of birds or large animals. The contractor shall furnish the COR and CO with duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within seven (7) months of date of delivery. Labels shall be in conformance with AMS-01 and applicable State seed laws. Local offices of the USDA Soil Conservation Service and the State University Agricultural Extension Service (County Agent or equivalent) shall be consulted for assistance with seeding, liming and fertilizer recommendations.
9. Hydroseeding: Hydroseeding is required unless otherwise approved. The hydroseeding operation shall apply the seed, mulch, and fertilizer simultaneously. Fertilizer shall be applied at a rate proposed by the contractor and agreed to by the COR with written authorization from the CO. The mulch shall be applied at a rate of about one (1) ton per acre. During application, the spray shall be directed to obtain a uniform material distribution as evidenced by a formation of a "blotter-like" cover, with about 5 percent void area. The mulch shall permit percolation of water to the underlying soil. The seed mixed with water and fertilizer shall be applied within one (1) hour after adding to the tank.
10. Topsoil: Topsoil shall be defined as any soil that is capable of supporting vegetative growth, and can be distinguished from the underlying soil by color, texture, moisture retention capacity, or odor. Stripped topsoil shall be kept separate from other unusable excavated materials, brush, litter, objectionable weeds, roots, stones, and other materials that would interfere with planting and maintenance operations. Unusable material shall be removed and properly disposed of.
11. Mulch: If mulch is used, straw mulch materials shall consist of wheat, oat, or rye straw, hay, grass, or other plants approved by the COR. All areas installed with seed shall be mulched on the same day as the seeding. Mulch shall be anchored immediately following spreading.

C.2.4.4.7.12 Staging Area Construction Site Fencing

1. Staging area sites shall be designed and have a separate price for chain link perimeter fence during the design process. FEMA shall provide direction as to the inclusion of a fence in the final design.
2. If additional site facilities such as detention ponds and substations are to be constructed, or if additional areas of concern are identified by FEMA, the contractor shall provide recommendations for chain link fencing and signage around the perimeters for safety reasons as required by local codes.
3. All construction areas shall have a perimeter marked by orange safety fencing and adequate signage, with controlled ingress and egress. If the staging area is developed in phases (if allowed/required), all unfinished phases and all construction areas shall be segregated with orange safety fencing and adequate signage. As each phase of the staging area is completed and opens to operations, the unfinished phases and construction areas shall be reconfigured with the fencing and signage.
4. The following specification is to be used unless otherwise approved.
    a. Provide fencing materials conforming to the requirements of ASTM A116, ASTM A702, ASTM F 626, and as specified. Provide hot-dip galvanized (after fabrication) ferrous-metal components and accessories, except as otherwise specified. Provide zinc coating of weight not less than 1.94 ounces per square foot. Provide complete installation conforming to ASTM F 567.
    b. Minimum acceptable line posts are Grade A, 1.900 inch O.D. pipe weighing 2.72 pounds per linear foot. For end, corner, and pull posts provide at a minimum Grade A, 2.375 inch O.D. pipe weighing 3.65 pounds per linear foot. Provide excavations for post footings which are in virgin or compacted soil. Provide line posts spaced equidistantly apart, not exceeding ten feet (10') on center. Do not exceed five-hundred feet (500') on straight runs between braced posts. Provide corner or pull posts, with bracing in both directions, for changes in direction of fifteen (15) degrees or more, or for abrupt changes in grade.
    c. Footings for line posts shall have bottoms of the holes approximately three inches (3") below the bottoms of the posts. Set bottom of each post not less than thirty-six inches (36") below finished grade when in firm, undisturbed soil. Set posts deeper, as required, in soft and problem soils and for heavy, lateral loads. Remove loose and foreign materials from holes and the soil moistened prior to placing concrete. Tops of footings shall be trowel-finished and sloped or domed to shed water away from posts. Keep exposed concrete moist for at least seven (7) calendar days after placement or cured with a membrane curing material, as approved. Provide concrete obtaining a

minimum twenty-eight (28) day compressive strength of 3,000 psi. Ensure final grading and established elevations are complete prior to commencing fence installation. Install posts straight and plumb within a vertical tolerance of one-quarter inch (1/4") after the fabric has been stretched.

d. For top rails, provide a minimum of 1.660 inches O.D. pipe rails, Grade A weighing 2.27 pounds per linear foot. Provide expansion couplings six inches (6") long at each joint in top rails. Provide post tops that are steel, wrought iron, or malleable iron designed as a weather tight closure cap. Provide one cap for each post, unless equal protection is provided by a combination post-cap and barbed-wire supporting arm. Provide caps with an opening to permit through passage of the top rail.

e. Provide fabric consisting of No. 9-gage wires woven into a one and three-quarter inch (1 ¾") diamond mesh, with 1.20 ounces per square foot zinc galvanizing. Provide one-piece fabric widths. Fence height will be determined on a site-by-site basis, and communicated to the designer in the task order. Provide fabric in single lengths between stretch bars with bottom barbs placed approximately one and one-half inches (1 ½") above the ground line. Pull fabric taut and tied to posts, rails, and tension wire with wire ties and bands. Install fabric on the security side of fence, unless otherwise directed. Ensure fabric remains under tension after the pulling force is released. Provide tie wires that are U-shaped to the pipe diameters to which attached. Twist ends of the wires not less than two full turns and bent so as not to present a hazard. Install nuts for tension bands and hardware on the side of the fence opposite the fabric side. Peen ends of bolts to prevent removal of nuts.

f. The tension wire shall be galvanized wire, No. 7-gage, and coiled spring wire, provided at the bottom of the fabric only. Provide zinc coating that weighs not less than 1.2 ounces per square foot. Provide stretcher bars that have one-piece lengths equal to the full height of the fabric with a minimum cross section of three-sixteenths by three-quarter (3/16" x 3/4") inch. Install tension wires by weaving them through the fabric and tying them to each post with not less than 7-gage galvanized wire or by securing the wire to the fabric with 10-gage ties or clips spaced twenty-four inches (24") on center.

g. Provide stretcher bar bands for securing stretcher bars to posts that are steel, wrought iron, or malleable iron spaced not over fifteen inches (15") on center. Bands may also be used in conjunction with special fittings for securing rails to posts. Provide bands with projecting edges chamfered or eased. Thread stretcher bars through or clamped to fabric four inches (4") on center and secured to posts with metal bands spaced fifteen inches (15") on center. Install fencing and gates true to line with no more than one-half inch (1/2") deviation from the established centerline between line posts.

h. 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. Install brace assemblies so posts are plumb when the diagonal rod is under proper tension. Provide two complete brace assemblies at corner and pull posts where required for stiffness and as indicated.

i. The contractor shall provide means of grounding fences per NFPA 70 unless requirements are different from local authority having jurisdiction. Ground fences at each corner, at the closest approach to each building located within fifty feet (50') of the fence, and where the fence alignment changes more than 15 degrees. Grounding locations cannot be spaced more than 650 feet. Ground the 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. Provide ground conductor consisting of No. 8 AWG solid copper wire. Provide copper-clad steel rod grounding electrodes three-quarter inch (3/4") by 10 foot long. Drive electrodes into the earth so that the top of the electrode is at least six inches (6") below the grade. Where driving is impracticable, bury electrodes a minimum of twelve inches (12") deep and radially from the fence, with top of the electrode not less than two feet (2') or more than eight feet (8') from the fence.

C. 2.4.4.7.13 Additional Site Work

Additional considerations during the construction period that are either new requirements or requirements not readily identifiable during design phase.

C. 2.4.4.7.14 Staging Area Construction-Related Bonds

The contractor shall obtain the appropriate required bonds for construction tasks.

Section C.3 Private/Commercial Site Inspection

C.3.1 Private/Commercial Site Inspection SCOPE

This section describes the duties of the contractor as it applies to Site Feasibility Inspections. Site Feasibility Inspections are the process by which a potential location for installation for a MHU has been verified to ensure the location meets installation requirements. The contractor may or may not be required to perform Site Feasibility Inspections. These requirements, however, apply to FEMA, other Federal agencies and contractors conducting Site Feasibility Inspections. FEMA will not provide the contractor with daily site inspections that exceed 200% of the daily installation rate. Site inspections in commercial parks, for purposes of the daily site inspection total, shall count as no more than four individual site inspections even if the contractor is conducting a commercial park inspection with more than four pads. If FEMA changes the daily rate of site

inspections, the contractor shall be given time (see Section J, Attachment 28) to increase or decrease their site inspection capability.

For example, if the install rate is 50 units a day, FEMA will not give the contractor more than 100 site inspections per day. However, FEMA is obligated to provide the contractor with that volume of site inspections.

C.3.2 Private/Commercial Site Inspection Requirements

The COR, with authorization from the CO, may direct the contractor, through a work order, to conduct site feasibility inspections to determine whether or not a property can facilitate the installation of a MHU. FEMA reserves the right to perform "in-house" feasibility assessments, or to form a team that includes Government and contract staff to conduct these site feasibility inspections, as it deems appropriate.

The site feasibility shall determine if:

- Installation of MHUs on private sites hinder the ability to proceed or continue with making necessary repairs and/or recovery activities to the damaged dwelling;
- The MHU shall be placed so that electrical cables will not cross the MHU.

Either of these conditions shall be identified and the site will be determined to be infeasible.

Prior to dispatching an inspector for a site inspection, the contractor shall make an appointment with the applicant. During the site inspection or prior to providing FEMA with the results of the site inspection all applicable forms shall be completed (Right of Entry, FEMA Form 90-31).

During the trip to the site and at the site, the contractor shall conduct a windshield survey to determine any obstacles that might limit site access; and make note of routes to the site and consider whether alternate routes shall be considered. Once on the property, the contractor shall locate by apparent feature such as fence or hedge row or, say, retaining wall, or shall inquire about property boundaries to determine if there is sufficient space available to place an MH/PM/TT and TPS and identify and mark utilities which include electrical service, water service (public or well), sewer service (public or septic), gas (if units require gas), telephone, and cable.

For septic tank systems, the contractor shall ask the owner to verify that the system is operational. If the septic system is not operational, the site shall be deemed "Infeasible - Pending."

For well water, the contractor shall ask the owner to verify that the system is operational. If the septic system is not operational, the site shall be deemed "Infeasible - Pending." If a well has

been flooded, the contractor shall ask the owner for certification that the well has been tested and approved by the Health Department. If the certifications not available, the site shall be deemed "Infeasible - Pending."

Items that are specifically identified during a site inspection include:

Contractor Site Inspection Utility Requirements	
Electric	• Identify whether the site has electric service. • Determine and mark location of electric utilities. • If the site lacks service, determine the estimated restoration date. • Determine the source and amperage of the electricity (30A, 50A, 100A, or 200A). • Determine whether a temporary power pole is needed.
Water	• Identify the water source and develop a plan for connection. • Tie in to the existing water supply (MH/PM) or spigot (TT). • For well water, ensure that the system is operational. • If applicable, determine whether wells have flooded and if wells must be tested and approved by the Health Department.
Sewer	• Identify sewer cleanout / where sewer lines can be tapped for access. • Determine whether the septic system is operational. • Determine whether the site is on a septic or public sanitary sewer. • Determine whether the septic has to be inspected or permitted.
Gas/Telephone/Cable Lines	• Identify all underground utilities to avoid any hazardous situations and/or interruption in service.
Tank and Pump System	• Ensure that there is adequate space to place the Residential Fire Sprinkler System's Tank and Pump System in such a way that the Tank and Pump System can be connected to the MHU and that the Residential Fire Sprinkler System functions properly. See *MHU Fire Sprinkler System Installation, Test,*

Maintenance, Repair and Deactivation Guide (Section J, Attachment J.38).

As part of the site inspection, the COR may task the contractor to determine whether the site is Rate Map (FIRM) (http://msc.fema.gov/). If the site address falls within" Flood Zone A", the contractor shall classify the site as "Infeasible - Pending Approval." Under no circumstances shall a contractor install an MHU within a floodway or coastal high hazard area (otherwise known as "V" Zone).

During the site inspection, either through observation, information volunteered by the applicant or general discussion (no direct inquires to the applicant), the contractor shall identify specific needs such as requirements for a Uniform Federal Accessibility Standards (UFAS) accessible unit or any other concerns which FEMA may not be aware. The contractor shall be sensitive when gathering this information. This may include:

- Whether the applicant uses oxygen tanks (this requires an all-electric unit).
- Whether anyone will be living with the applicant who may have special needs (i.e. adults using walkers).

The contractor shall create and submit a sketch of the site to be submitted with the site inspection paperwork. The sketch of the site shall include but not be limited to the following: applicant's name, address, coordinates of the site location, placement of selected unit and TPS in respect to existing house footprint, streets and location of utilities (sewer, water, aerial/underground power, gas, telephone and cable).

The Site Feasibility Inspection Report shall also include photographs of issues on the property that should be addressed prior to installation of the MHU, such as debris remaining on the property. All site inspection paperwork must be signed by the contractor.

Items that can make a site infeasible include but are not limited to:

- The site being inaccessible either because of debris on the site or the lack of road access to the site;
- There is debris on the site that prevents the installation of an MHU;
- The site has terrain that would prevent the installation of an MHU;
- The lack of utilities (water, sewer or electric). FEMA will not install an MHU on a site that does not have these three utilities. Cable and telephone are optional utilities that do not affect a site's feasibility;

- The installation of an MHU would interfere with the reconstruction of a dwelling on a private site;
- The MHU size specified to meet the disaster survivor's needs is too large for the site or area available;
- The lot size will not accommodate a handicap ramp, if required.
- The lot size will not accommodate a TPS.
- The flood zone is V, A, (more information needed). Flood zone maps can be found at: http://msc.fema.gov; and,
- Other items that would make placing an MHU on a site infeasible.

If, during the site inspection, the contractor estimates that there is a requirement for the installation of items above the basic installation the contractor shall provide preliminary quantity estimates and the appropriate CLIN for:

- Length of water, sewer, electric, additional trenching and site preparation.
- Municipal water and sewer taps, and temporary service pole.
- Any other additional work that needs to be performed other than the basic setup.

The contractor shall be required to perform a certain number of inspections each day, which is specified in: MHUM SCOPE (See Section J, Attachment J.1), with performance requirements outlined in this PWS and Section F: Deliveries or Performance. Mileage to and from a site to conduct a site inspection is included in the CLIN for the respective site inspection type and is not charged separately.

During a site inspection at a private site or at a commercial park the contractor shall include as part of the site inspection and provide to FEMA as part of the site inspection report an assessment as to the feasibility of placing the tank and pump system on the site in proximity to the MHU so that the TPS can be connected to the MHU without any changes to TPS water connection or electrical connections provided with the TPS.

Sites that cannot accommodate a TPS shall be identified as infeasible with the reason being that the site cannot accommodate a TPS.

Work conducted in this section of the PWS can occur on a private site or if there are four or less pads assigned to a site inspection work order.

For all Site Feasibility Inspections that are returned with any result other than feasible, the contractor shall provide a narrative description of why the location is not feasible and what, if anything, could be done to make the site feasible as well as an estimated price to make the site

feasible. All Site Feasibility Inspections will be documented using the FEMA Form as described in Section F: Deliveries or Performance, Section F.6, Areas #10, and #12.

Payment for a completed site inspection as described above is CLIN # 0003AA.

When verifying utilities, the contractor shall use the public utility locator service to determine if there is an existing infrastructure and whether or not the utilities are active and ready to provide service. The utility locator service will provide the location of the utilities on the site prior to a site inspection. In the event there is a fee for utility location service, the contractor shall pay for the service. The Government will reimburse the contractor for the actual expense incurred. (The contractor shall provide documentation for the utility location including but not limited to a receipt for the service).

Payment for private utility locator as described above is CLIN # 0003AI.

C.3.2.1 Flood Zone Site Inspection Engineering

If the site falls in the borderline area, the contractor shall obtain the approval of a professional engineer prior to installing manufactured homes, park models, and/or other alternative housing solutions in "Flood Zone A" (100 year Flood Zone). All MHUs installed in "Flood Zone A" shall receive local flood zone or floodplain manager and FEMA designee approval prior to installing the units.

Payment for work completed under this section is CLIN # 0003AK.

C.3.3 Results of Private Site or Individual Commercial Park Pad Feasibility Inspections

Results of a Site Feasibility Inspection may be classified as one of the following:

- Feasible - A site is deemed "Feasible" if it can accommodate an MHU with little to no site modification, and will not inhibit the homeowner and/or their representatives to access the damaged dwelling to conduct necessary repairs.
- "Infeasible-Pending" - A site is deemed "Infeasible-Pending" if there are conditions on the site above basic installation requiring correction before meeting MHU basic installation requirements, and will not inhibit the homeowner and/or their representatives to access the damaged dwelling to conduct necessary repairs.
- Infeasible – A site is deemed "Infeasible" if it cannot accommodate an MHU based on the installation requirements. The contractors shall provide FEMA with an estimate to make the site feasible or an explanation as to why the site could never be made feasible.'

  Payment for private site or individual commercial park pad feasibility inspections that result in feasible, infeasible-pending, or infeasible are paid for under CLIN # 0003AA.

- No Contact. A site is deemed No Contact when attempts to contact the applicant are unsuccessful.

  Payment for private site that results in a no contact is paid for under CLIN # 0003AM.

- Withdrawn – A site inspection is deemed Withdrawn when the disaster survivor informs FEMA that he/she no longer wishes to participate in the Manufactured Housing Program. This notification will occur either via telephone when the contractor is attempting to set up a site inspection or in person when the contractor meets with the disaster survivor prior to conducting a site inspection. If the disaster survivor informs the contractor of their intent to withdraw during a telephone conversation, the contractor will note on the SFIR work order "Applicant has withdrawn by telephone." If the disaster survivor informs the contractor at the time of the site inspection visit, the contractor will note on the SFIR form "Applicant wants to withdraw from the Manufactured Housing Program" and obtain the applicant's signature. Mileage to conduct a withdrawn inspection is included in the CLIN for No Contact/Withdrawn and is not charged separately.

  Payment for private site that results in an applicant who has withdrawn by telework is paid for under CLIN # 0003AO.

  Payment for private site that results in an applicant who has withdrawn on-site is paid for under CLIN # 0003AQ.

Private site inspections that are classified as "No Contact" or "Withdrawn" are to be billed differently than completed site inspections.

The contractor may be issued a work order to perform priority site inspections for private and/or individual commercial park pads (four or less in the same park). Performance requirements remain the same as standard site inspection requirements outlined in this PWS. Timelines for priority site inspections are found in Section F: Deliveries or Performance. Mileage to and from a site to conduct a site inspection is included in the CLIN for the respective site inspection type and is not charged separately.

Payment for priority site inspections for private and/or individual commercial park pads are paid for under CLIN # 0003AE.

C.3.4 Commercial Park Feasibility Inspections

The contractor shall, at the request of the COR with authorization from the CO, perform preliminary investigations of commercial parks. The adequacy of the park's infrastructure shall

be assessed. Areas of consideration shall include the number and size of available lots, sewer system operations and capacity, water distribution system, electrical distribution system, environmental concerns, fire prevention, storm shelters, flood plain information, and ingress/egress. The contractor shall determine the condition of the aforementioned with respect to governing Federal, State, and local codes. This information will be reported to the COR using a FEMA Form as specified in Section F: Deliveries or Performance, Section F.6, Area #12. Proximity of local schools, mail route information, and other areas of public interest shall be included in the report. Identify distances to nearest: airport approach, shopping, places of worship, pharmacies, veterinarian clinics, child care, and health care. The report shall also consider the availability of telephone service, public transportation, waste management service, other amenities of interest, and the potential for expansion on the current owners' property. The contractor shall be required to complete Commercial Park Feasibility Inspections as specified in: MHUM SCOPE (See Section J, Attachment J.1), with performance requirements outlined in this PWS and Section F: Deliveries or Performance. Each pad within the Commercial Park shall be evaluated individually. Mileage to and from a commercial park to conduct a commercial park feasibility inspection is included in the CLIN for Commercial Park Feasibility Inspection and is not charged separately.

During a commercial park feasibility inspection the contractor shall include as part of the feasibility inspection and provide to FEMA as part of the site inspection report an assessment as to the feasibility of placing the TPS on the site in proximity to the MHU so that the TPS can be connected to the MHU without any changes to TPS water connection or electrical connections provided with the TPS. Where multiple FEMA MHUs are to be installed on adjoining lots, consider using one TPS to supply multiple MHU sprinkler systems as described in *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). FEMA will provide the current guide; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

Sites that cannot accommodate a TPS shall be identified as infeasible with the reason being that the site cannot accommodate a TPS.

Work conducted in this section of the PWS occurs in commercial parks if there are more than four pads available.

For all Site Feasibility Inspections that are returned with any result other than feasible, the contractor shall provide a narrative description of why the location is not feasible and what, if anything, could be done to make the site feasible as well as an estimated price to make the site feasible. All Site Feasibility Inspections will be documented using the FEMA Form as described in Section F: Deliveries or Performance, Section F.6, Areas #10, and #12.

Payment for commercial park feasibility inspections is paid for under CLIN # 0003AC.

The contractor may be issued a work order to perform priority Commercial Park Feasibility Inspections. Performance requirements remain the same as standard Commercial Park Feasibility Inspection requirements outlined in this PWS. Timelines for priority Commercial Park Feasibility Inspections are found in Section F: Deliveries or Performance. Mileage to and from a site to conduct a site inspection is included in the CLIN for the respective site inspection type and is not charged separately.

Payment for priority commercial park feasibility inspections are paid for under CLIN # 0003AG.

C.3.5 Semi-Permanent/Permanent Site Assessment

C.3.5.1 Area Assessment

An area assessment shall be conducted to investigate the regulations that govern work and other data for the area. A report shall be generated and submitted to the COR that includes but is not limited to: laws that govern clean water such as the Clean Water Act or other governing authority, governing building code, depth of frost line and aquifer, utility providers, typical perk test results, permits and any other requirements that affect the work for a semi-permanent or permanent installation. This assessment is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #82.

Payment for work completed under this section is CLIN #0003AV.

C.3.5.2 Individual Site Inspection/Detailed Scope of Work

A report shall be generated and submitted to the COR that includes but is not limited to: *Site Photo(s)*, *Site Location*, and *County* where the site is located, *GPS Coordinates* at the street, *Wetlands* visual inspection, *Site Utilities* that include the availability and distance of water, sewer and power sources. Verify that the utilities observed are adequate to support the MHU or MHUs or outline what must be accomplished for the utilities to be adequate. Identify needed road improvements for site access. Identify *local/State MH Installation Requirements*. Use local floodplain information and Flood Insurance Study (FIS) maps to determine what floodplain designation covers the site. This assessment is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #83.

A detailed Scope of Work and sketch shall be generated showing utility distance runs for electrical, sewer and water, freeze protection/cold weather measures, depth of utilities, MHU pier details and price estimate. Price estimate shall be of sufficient detail to analyze. A discussion section will explain what additional requirements that must be met above the temporary standard

defined in this contract. Address any site access issues and provide an access improvement plan as identified in Section F, Area #83.

Payment for work completed under this section is CLIN #0003AW.

C.3.5.3 Historical Preservation Survey

Conduct research on each site in accordance with preservation laws, policies, and executive orders such as the National Historic Preservation Act. Coordinate with Federal, Tribal, State, and local environmental and historic preservation officials and organizations to obtain information on the selected sites. Compile copies of historic property designations or surveys, or archaeological surveys. Generate a report and submit to the COR per the established timeline in Section F, Area #47.

Payment for work completed under this section is CLIN #0003AX.

C.3.5.4 Environmental Database Search

Conduct a database search on each site to identify past uses of the site, any existing remediation reports, and any information related to potential hazardous materials. Generate a report and submit to the COR per the established timeline in Section F, Area #48.

Payment for work completed under this section is CLIN #0003AY.

Section C.4 Installation

C.4.1 Temporary Installation SCOPE

This section describes the duties of the contractor as it applies to temporary installation of an MHU at a real property location. During this installation process, the MHU is placed at its installation location as indicated on the site inspection drawing. The unit is then blocked, leveled, and anchored; utilities are connected and outfitted with proper skirting, stairs, ramps, and platform stairs. The MHU shall be made Ready for Occupancy (RFO) (See Section J, Attachment J.36) by testing all appliances and assembling all furniture. The lot shall be cleaned and have all extraneous material removed.

C.4.1.1 MHU Dimensions

FEMA's current inventory of MHUs range in size from approximately 8 ½' by 48' to approximately 14' by 60'. Dimensions for individual units are at the discretion of the MHU manufacturer. Contractors will be provided with the specific unit barcode/serial number when an installation work order is issued.

C.4.2 Temporary Installation Requirements

FEMA may issue work orders to the contractor for installation of any of the following classes of MHUs: MH, PM and TT. Generally, all types of FEMA MHUs are installed to the same standards, including all applicable Federal, State, and local laws or regulations, as well as the manufacturer's installation instructions. If State or local codes vary from any of the requirements, resulting in any deviation on the part of the contractor, a copy of the code and notation of installation modifications necessary shall be provided to the COR for approval. Additionally, FEMA may require the MHUs to be installed in compliance with the Uniform Federal Accessibility Standards (UFAS). In the case of conflicting requirements, the most stringent, specific, and definitive rule will be followed. The contractor shall submit an installation package for each MHU install as specified in Section F.6 Area #15.

The basic Temporary Installation of each MHU requires the installation of rear stairs and either front standard stairs, platform steps, or a UFAS ramp. Each MHU installed as a Temporary Installation requires the installation of a Residential Fire Sprinkler System's Tank and Pump System when the MHU being installed is equipped with a Residential Fire Sprinkler System.

Upon receipt of a FEMA issued work order, the contractor shall install the MHU at the FEMA approved location detailed in the Complete Site Inspection Report, as described in Section F: Deliveries or Performance Section F.6, Area #9. Any deviation from the approved site location shall be approved in advance by the COR. The installation of the MHU on private sites shall not hinder the ability to proceed or continue with making necessary repairs and/or recovery activities to the damaged dwelling. As part of the basic installation, the contractor shall complete the following tasks:

BASIC TEMPORARY INSTALLATION ITEMS (WITH FRONT ENTRANCE ALTERNATIVES)			
UNIT TYPE	PWS ITEM / REFERENCE		CLIN
MH / PM / EXPRESS Basic Installation CLIN	***All items below are included in MH/PM/Express Basic Installation:***		Private 0004AC Commercial Or Group 0004AK
	• Site Preparation and Crowning	C.4.2.2	
	• Blocking	C.4.2.3	
	• Strapping / Anchor for Park Models and Manufactured Homes	C.4.2.4	
	• Electrical connections	C.4.2.6	
	• Water connection	C.4.2.9 (excluding C.4.2.9.1 and C.4.2.9.2)	

	• Sewer Line Installation	C.4.2.10 (excluding C.4.2.10.1)	
	• HVAC installation	C.4.2.11	
	• Skirting	C.4.2.12	
	• Clean and make ready	C.4.2.13	
	• Standard Stairs (rear)	C.4.3.1	
	• Removal of Equipment, Excess Materials and Debris	C.4.2.15	
	• Residential Fire Sprinkler Installation	C.4.2.14	
	• MHU Transportation Mileage included with Basic Installation	C.2.3.1.1	
	• Heavy Tow	C.2.3.1.5	
	• Equipment to Spot for site install	C.4.2.16	
MH / PM / EXPRESS Front Entrance CLIN Alternatives	***Work Orders will include one of the below which are in addition to MH/PM/Express Basic Installation:***		
	• Standard Stairs (front) OR;	C.4.3.1	0004AU
	• Platform steps OR;	C.4.3.2	0004BE
	• UFAS ramp	C.4.3.3	0004AZ
TRAVEL TRAILER Basic Installation CLIN	***All items below are included in Travel Trailer Basic Installation:***		
	• Basic Site Prep	C.4.2.2	Private 0004AE Commercial Or Group 0004AM
	• Blocking	C.4.2.5.1	
	• Strapping / Anchor	C.4.2.5.2	
	• Electrical connections	C.4.2.6	
	• Specific Electric Requirements for Travel Trailer	C.4.2.8	
	• Specific Water Connection for Travel Trailer	C.4.2.9.2	
	• Sewer Line Installation	C.4.2.10 (excluding C.4.2.10.1)	
	• Clean and make ready	C.4.2.13	
	• Removal of Equipment, Excess Materials and Debris	C.4.2.15	
	• TT Transportation Mileage included with Basic Installation	C.2.3.1.1	
TRAVEL TRAILER Front Entrance CLIN Alternatives	***Work Orders will include one of the below which are in addition to* TRAVEL TRAILER *Basic Installation:***		
	• Standard Stairs (front) OR;	C.4.3.1	0004AX
	• Platform steps OR;	C.4.3.2	0004BG
	• UFAS ramp	C.4.3.3	0004BA

MH/PM/Express/TT (if required)	• Permits	C.4.2.1	0004AA
	• Expenses associated with Tribal Employment Rights Office (TERO) (or equivalent) ordinances and regulations	C.16	0015AA

C.4.2.1 Installation Permits

The contractor shall identify and apply for all permits that are required for MHU installation as defined in Section F.6 Areas #13 and #23, unless a deviation is approved by the COR. The contractor shall be responsible for obtaining necessary permits associated with placing and installing the unit and utility installation. The contractor shall identify the permits required for completing the unit installation. In the event that delays occur in obtaining local government issued permits, the contractor, with COR authorization, as approved by the CO, and in coordination with the AHJ, has the option to employ the services of a third party permitting agency to expedite processing of permits. In the event that the contractor pays for the permits required for MHU installation, the Government will reimburse the contractor at actual expense (receipt and proper documentation required).

C.4.2.2 Site Preparation and Enhancement

Site preparation provides the labor and materials required to make a site feasible for the installation of an MHU. As necessary, the contractor shall clear and remove debris prior to MHU installation. The cleared area shall provide sufficient area for MHU installation and provide occupants adequate access to the home and ensure occupant safety.

A vapor barrier shall be installed to cover the ground under the MHU. The entire area underneath the MHU shall be covered with a 6 mil vapor barrier and any joints shall overlap at least 12 inches and be sealed. If additional crowning material is required the vapor barrier shall be installed after the site is crowned.

Basic site preparation is the efforts of laborers with hand tools to prepare the site. The level of labor is defined as the equivalent work of two (2) people working for one (1) hour each with hand tools such as lawnmowers, chain saws, shovels, rakes, wheel barrels, etc., necessary to prepare the site for the unit.

Crowning and drainage shall be included in basic installation to ensure that the site is crowned and graded to slope away from the manufactured home to ensure proper drainage and prevent moisture from accumulating under the unit. All drainage must be diverted away from the home and must slope a minimum of one-half inch per foot away from the foundation for the first ten feet (10’). Where property lines, walls, slopes, or other physical conditions prohibit this slope, the site must

be provided with drains or swales or otherwise graded to drain water away from the structure. If additional material is required to create a properly graded site (CROWNED), a geotextile type fabric shall be installed prior to material installation to segregate the existing soil from the crowning material. The fabric is intended to ease the removal of material at time of deactivation. Crowning of an installation site shall only be required on private sites and existing commercial pads (Commercial Park Expansion and Group Site design and construction shall have pads that are properly graded as part of their design.). The contractor shall provide a level base free of stumps, stones, and other obstructions for the installation of the Residential Fire Sprinkler System's Tank and Pump System as part of the basic site preparation. As part of basic installation, the contractor shall locate, expose, and connect water, sewer, and electrical connections whereby they can be hooked up to the unit post-installation and made serviceable. The contractor shall be responsible for all trenching, backfill and compaction necessary for this contract. All trenches shall be back filled, tamped or rolled to the maximum practical density to avoid settlement damage to sewer or water lines. All construction debris, waste and excess material shall be cleared and removed from all sites following preparation.

Providing a level base for the installation of the Residential Fire Sprinkler System's Tank and Pump System is part of the site preparation and enhancement in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). FEMA will provide the current guide; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. A TPS pad constructed using either a grass-reinforced mesh base or a gravel pad base, which does not require excavation and the construction of a wood frame/retaining wall to accommodate installation of a TPS on a high-slope, is included as part of basic installation.

C.4.2.2.1 Additional TPS Pad Enhancement

If the only way to install a TPS is to follow the diagram shown in *Figure 5* in *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38), which would require excavation and the construction of a wood frame/retaining wall to accommodate installation of a TPS on a high-slope, use this work area. A TPS pad constructed using either a grass-reinforced mesh base or a gravel pad base, which does not require excavation and the construction of a wood frame/retaining wall to accommodate installation of a TPS on a high-slope, is included as part of basic installation.

Payment for work completed under this section use CLIN # 0004AS.

C.4.2.3 Blocking and Piers for Park Models and Manufactured Homes

The contractor shall construct piers consisting of double courses of concrete blocks and shall meet or exceed the requirements of the local entity issuing the permits as well as the manufacturer

specifications based on soil bearing capacity, unless double blocking is prohibited by the local entity. The number and location of piers shall be in accordance with the manufacturer's instructions unless local codes provide for differing specifications that must be met. If there is a choice between two requirements for blocking, the contractor shall choose the more stringent requirement.

Blocking shall be installed at locations specified by the manufacturer.

Minimum requirements for park models and manufactured homes include:

1. Piers shall consist of courses of double concrete block.
    a. Piers will have at a minimum two (2) solid cap blocks on the base and two (2) solid cap blocks at the top of the piers (top course to be laid perpendicular to the I-beam). Space between the top of the pier's solid cap block and the bottom of the I-beam frame of the MHU shall not exceed three inches (3").
    b. Up to three inches (3") of this space may be filled with blocking timber and wedges laid perpendicular to the I-beam, and no more than one inch (1") of this area shall be shimmed with wedges.
2. Piers consisting of single courses of concrete block will be installed on either side of each exterior door opening and any exterior openings. This includes windows, which are forty eight inches (48") or wider.
3. The contractor shall provide a base for each pier. The approximate size of the base is twenty-four inches by twenty-four inches (24"x24") with double blocking. The base will be a State and local approved Acrylonitrile butadiene styrene (ABS) type pier pad, unless otherwise specified by State or local code.
4. Blocking height will be no more than forty-four inches (44") for manufactured homes and park models, unless this conflicts with State or local regulations in which case the State or local regulations are applicable. If piers for blocking are required to be above forty four inches (44"), the Contractor shall provide a justification for blocking at the proposed height and shall have a licensed professional engineer approval for manufactured homes and park models.
5. The contractor shall remove all grass roots, loose dirt, rocks and debris at the base of the piers.

    Note: The contractor has the option to propose alternative method for blocking to the COR. However, any alternative method for blocking the units shall meet or exceed the requirements in the Performance Work Statement, State or local codes, and shall be approved by applicable entities.

After the weight of the unit is transferred to the concrete block piers, the piers shall be vertically aligned and tightly shimmed with wooden wedges. If the piers are not vertical at the time of final inspection, they shall be removed and reinstalled by the contractor at no additional expense. The contractor is responsible for all necessary re-leveling and re-blocking of the unit for a time period specified in: MHUM SCOPE (See Section J, Attachment J.1).

C.4.2.4 Strapping and Anchoring for Park Models and Manufactured Homes

Strapping and anchoring shall be governed by the stricter of the stipulations found in either the manufacturer requirements, or the official instruction of the state or local authority having jurisdiction (AHJ). Strapping and anchoring shall be installed at locations specified by the manufacturer for the wind zone as established by Housing and Urban Development (HUD) for Manufactured Homes or as directed by the manufacturer for Park Models. Requirements for PMs and MHs include:

1. Straps shall be 1 ¼" with a thickness of 35/1000" cold rolled galvanized steel, as per Federal Specification QQ-S-781 G for Type 1 Class B, Grade 1 strapping.
2. Anchor straps shall be snug and in a near vertical position. The number and spacing of straps is typically dependent on the frame size for the MHU, the length and height of the piers and the wind zone.

Tie-downs and strapping shall be inspected and adjusted no earlier than seven days and no later than 14 days after installation.

Alternatives to the above requirement may be used if the contractor can provide the COR with a current independent study by an appropriately licensed expert to support the conclusion that the alternative measure is equal to or exceeds requirements. The contractor is responsible for ensuring it meets the applicable FEMA or local requirements.

Note: The contractor shall only remove the wheel/axle, if the manufacturer installation instruction or regulation requires the removal of the wheel/axle.

C.4.2.5 Blocking, Piers, Strapping and Anchoring for Travel Trailers

C.4.2.5.1 Blocking and Piers for Travel Trailers

The contractor shall construct piers consisting of double courses of concrete blocks. The purpose of blocking a travel trailer is to ensure that the travel trailer is stable during the period that the travel trailer is occupied by a disaster survivor. Requirements for TTs include:

- Piers shall consist of courses of double concrete block.
- Piers will have at a minimum two (2) solid cap blocks on the base and two (2) solid cap

blocks at the top of the piers (top course to be laid perpendicular to the I-beam).

- Space between the top of the pier's solid cap block and the bottom of the I-beam frame of the MHU shall not exceed three inches (3"). Up to three inches (3") of this space may be filled with blocking timber and wedges laid perpendicular to the I-beam, and no more than one inch (1") of this area shall be shimmed with wedges.
- A minimum of two (2) piers per side will be installed for travel trailers.
- The contractor shall provide a base for each pier. The approximate size of the base is twenty four inches by twenty four inches (24"x24") with double blocking. The base may be a wooden three quarters inch (¾") treated plywood or State and local approved ABS type pier pad, unless otherwise specified by State or local code.
- The contractor shall clean away all grass roots, loose dirt, rocks and debris at the base of the piers.
- Blocking shall be at a height that allows the wheels to remain in contact with the ground.
- Manufacturer provided stabilizer jacks shall not be used in conjunction with or in lieu of blocking.

After the weight of the unit is transferred to the concrete block piers, the piers shall be vertically aligned and tightly shimmed with wooden wedges. If the piers are not vertical at the time of final inspection, they shall be removed and reinstalled by the contractor at no additional expense. The contractor is responsible for all necessary re-leveling and re-blocking of the unit for a time period specified in: MHUM SCOPE (See Section J, Attachment J.1)

C.4.2.5.2 Strapping and Anchoring of Travel Trailers

The contractor shall install two (2) anchors per side for a total of four (4) anchors. The location of the straps shall be two (2) on the tongue of the unit, and two (2) on the back bumper of the unit. Each strap shall extend from one (1) turnbuckle on the anchor head; wrap one (1) time around the tongue or the back bumper, respectively, before being attached to the other turnbuckle on the anchor head.

Alternatives to the above requirement may be used if the contractor can provide the COR with a current independent study by an appropriately licensed expert to support the conclusion that the alternative measure is equal to or exceeds requirements. The contractor is responsible for ensuring it meets the applicable FEMA or local requirements.

C.4.2.6 Electric Connections for all MHUs

The contractor shall install all electric connections for MHUs.

Requirements for all types of MHUs (MH/PM and TT) include:

1. The contractor shall provide electric runs of fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites.
   a. Electric line installation is measured from the connection point of the MHU to the electrical connection source for each MHU.
   b. ONLY the horizontal run will be calculated for the actual measurement. Any vertical runs will not be counted as part of the total linear feet of electric line installed.
   c. Details regarding the measurement of electrical runs can be found in Section J: Attachment J.25.
   d. MHs and PMs shall be grounded per NFPA 70 Article 250.
   e. All feeds shall enter the Manufactured Home/Park Model from under the unit inside the skirting.

   Note: If the contractor identifies any MHUs that are designed to accept service conductors from the meter overhead rather that buried, the COR shall be notified.
2. Connections for MHs/PMs shall be made in accordance with the manufacturer's standard connection procedures. The contractor shall use the following specifications:
   a. The cables shall be buried and properly encased in the appropriate conduit in compliance with all National, State, and local codes and regulations. This includes the cable for the A/C breaker and burial cable.
   b. The conduit shall be securely attached to the electrical boxes in accordance with accepted methods and standards and all National, State, and local codes and regulations. Sweeps shall be used at the junction box and meter loop assembly.
3. The contractor shall run electric at an excavation depth in accordance with the National Electric Code (NEC) or a minimum of eighteen inches (18") below the surface, whichever requirement is greater.
4. The electric connection shall not be connected directly into the damaged dwelling where the utility connections would interfere or prevent the dwelling from being occupied, removed, replaced, or repaired.
5. All components shall be installed in accordance with the NEC. All conduit connections shall be watertight. Service entrance cables shall comply with all National, state, and local codes and regulations. The weatherproof disconnect box will be equipped with the appropriate breaker and mounted on either a temporary power pole or a treated 4"x4" or 6"x6" post. The bottom of the weatherproof disconnect box will be a minimum of eighteen inches (18") above ground level.

6. All power connections shall be installed as per the appropriate Federal, state and local codes and regulations.

   The electrical load for each type of MHU is up to the following:

   - Manufactured Home: two hundred (200) amperes (amps);
   - Park Model: two hundred (200) amps; and
   - Travel Trailer: fifty (50) amps (Note: Refer to section C.4.2.8).

C.4.2.7 Additional Electric Requirements for Manufactured Homes and Park Models

If the contractor does not have authorization for additional electric work that is not included in the original work order, the contractor shall request a modification to the work order from the CO or COR depending on the estimated price of the modification. Additional work is not authorized unless approved by the CO or COR, with written approval from the CO, or until the contractor has a modified work order.

1. When a power pole and meter loop is required:

   a. The contractor shall furnish and install power pole and meter loop with the appropriately sized service.

   b. The contractor shall install an overhead electric assembly if required by the utility provider.

   c. Power Pole for the MHU scheduled to be installed with a weatherproof, rain-tight meter box containing the main circuit breaker. All conduit connections on the meter pole shall be watertight.

      Payment for work completed under this section is CLIN # 0004BZ.

2. Additional Power Line Support: The contractor shall install power poles without a meter loop that supports overhead electrical lines as required.

   Payment for work completed under this section is CLIN #0004CA.

3. When a power pedestal is required, the contractor shall obtain prior approval for work order modification from the COR using the documentation detailed in Section F: Deliveries or Performance, Section F.6, Area #33.

   Payment for work completed under this section is CLIN # 0004CC.

4. Electric runs beyond fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites shall be documented using the FEMA form specified in Section F: Deliveries or Performance, Section F.6, Area #33 and Section J, Attachment J. 24 and require COR approval prior to installation.

   Payment for work completed under this section is CLIN # 0004CE.

5. The contractor shall pay the fees associated with connecting the MHU to any local utility and will be reimbursed at actual expense only if the proper documentation and receipts are provided to the COR. Utility charges accrued by the applicant prior to the installation of the MHU and the disaster is not responsibility of the contractor.

   Payment for work completed under this section is CLIN # 0004BX.

C.4.2.8 Specific Electric Requirements for Travel Trailers

Travel trailers shall be connected using the manufacturer's provided access port. The contractor shall use the manufacturer's pigtail if available. When installing travel trailer service, the contractor shall provide above ground electrical service from the panel box to the disconnect box or panel.

C.4.2.9 Water Connection Requirements for all MHU types

The contractor shall install water connections for all types of MHUs (PMs, MHs and TTs). Requirements include:

1. The contractor shall provide water runs of up to fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites.
   a. Water line installation is measured from the connection point of the MHU to the water connection source for each MHU.
   b. ONLY the horizontal run will be calculated for the actual measurement. Any vertical runs will not be counted as part of the total linear feet of water line installed.
   c. Details regarding the measurement of water runs can be found in Section J: Attachment J.25, Utility Measurement Requirements.
2. The contractor shall run the water line at an excavation depth a minimum of six inches (6") below the frost line and not less than twenty-four inches (24") below the surface of the ground with a three-quarter inch (3/4") shut-off valve installed in the water line.

a. Water service line shall be placed in a trench separate from the sewer line and at a distance that is in compliance with state and local codes, or three feet (3') apart, whichever is greater.

b. Backfill materials shall be free of rocks and other debris and shall include a bed of compacted sand six inches (6") above and below the water line.

c. The contractor shall work with State and local officials to determine the frost line, and ensure water lines are installed at an appropriate depth.

Note: All excavations greater than forty-eight inches (48") deep require prior approval from the COR (Refer to Section C.4.2.9.1).

d. Documentation regarding the frost line shall be provided to the COR within the time frame indicated in MHUM SCOPE and as specified in Section F: Deliveries or Performance, Section F.6, Area #34.

3. A shut-off valve shall be located adjacent to the unit connecting point, and shall be in a convenient location to facilitate shut-off of water to unit.

4. If the MHU is not equipped with a hose bib, the contractor shall install a hose bib appropriate for the weather conditions.

5. Water lines shall be three-quarter inches (3/4") galvanized steel; type K or L copper tubing, ASTM B88-74A; or schedule 40 PVC plastic pipe, ASTM D-1785, three-quarter inch (3/4") CPS 200 psi, or equal, subject to prior approval. A back flow preventer valve shall be properly installed if required.

6. Water connection shall not be connected directly into the damaged dwelling where the utility connections would interfere or prevent the dwelling from being occupied, removed, replaced, or repaired.

7. The contractor shall test the installed service line for leakage, and any leaks shall be repaired at no additional expense.

8. The contractor shall contact the COR for instruction and approval if pavement shall be removed and replaced, using a FEMA Form as described in Section F: Deliveries or Performance, Section F.6, Area #33.

9. Where local water pressure is in excess of the manufacturer's recommended maximum psi, the contractor shall install an approved and appropriate water pressure-reducing (pressure regulator) device to safeguard the unit's plumbing system.

10. Service lines beneath the MHU shall be installed clear of the ground, made with the minimum number of joints, be of the shortest practical length, and be supported at a maximum of four foot (4') intervals. See winterization requirements below.

11. Water piping shall be installed in accordance with State and local codes, and the Uniform Plumbing Code.
12. Specific requirements for Travel Trailers (Refer to section C.4.2.9.2).

At sites with an existing water service riser, the contractor shall make the connection between the connection point of the MHU and the riser. If the water service riser is not in place, the contractor will make an appropriate tap on the water service line, and install the necessary piping and riser connection to connect the MHU to the service line (Refer to C.2.9.1 for water tap).

When municipal water tap is required, the contractor shall perform all necessary excavation and installation to connect the MHU to the water supply, according to State, Tribal and Local requirements. The contractor shall also backfill and compact any holes or trenches created. The installation of the water tap (if required) will be accomplished in conjunction with, and according to the regulations of the Local Water Company. Only if required by local authorities, the trench shall not be backfilled until the water tap has been inspected and approved by the water department. In the event the governing entity has a predetermined fee for water taps, such a fee shall be paid by the contractor.

C.4.2.9.1 Additional Water Connection Requirements for Manufactured Homes/Park Models

If the contractor does not have authorization for additional water connection work that is not included in the original work order, the contractor shall request a modification to the work order from the CO or COR.

1. Water runs beyond fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites shall be documented using the FEMA form specified in Section F: Deliveries or Performance, Section F.6, Area #33 and Section J, Attachment J. 24 and require COR approval prior to installation.

   Payment for work completed under this section is CLIN # 0004BS (for buried line).

2. When municipal water tap is required, the contractor shall perform all necessary excavation and installation to connect the MHU to the water supply, according to State and local requirements. The contractor shall also backfill any holes or trenches created. The installation of the water tap (if required) will be accomplished in conjunction with, and according to the regulations of the local water company. Only if required by local regulations, the trench shall not be backfilled until the water tap has been inspected and

approved by the water department.

In the event the governing entity has a predetermined fee for water taps, such a fee may be paid by the contractor, at the discretion of the CO, and reimbursed at actual expense (receipt and proper documentation required).

Payment for "water tap fee" use CLIN # 0004BQ.

3. All excavations greater than forty-eight inches (48") deep require prior approval from the COR, as authorized by the CO, using FEMA forms specified in Section F: Deliveries or Performance, Section F.6, Area #33 before excavation begins.

Payment for work completed under this section is CLIN # 0004CI.

C.4.2.9.2 Specific Water Connection Requirements for Travel Trailers

At sites with water service riser already installed, the contractor shall make the connection between the unit connecting point and the riser using a RV Grade polyurethane hose and ensure that it is Restriction of Hazardous Substances (RoHS) compliant. If the water service riser is not in place, the contractor shall make an appropriate tap on the water service line and install the necessary piping and riser connection.

Payment for work completed under this section is CLIN # 0004BT.

C.4.2.10 Sewer Line Installation

The contractor shall install all sewer connections for MHUs. The contractor is responsible for all types of MHUs (PMs, MHs and TTs) requirements include:

1. The contractor shall provide utility runs (as part of basic installation) of up to fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites.
   a. Sewer line installation is measured from the connection point of the MHU to the sewer connection source for each MHU.
   b. ONLY the horizontal run will be calculated for the actual measurement. Any vertical runs will not be counted as part of the total linear feet of sewer line installed.
   c. Details regarding the measurement of sewer runs can be found in Section J: Attachment J.25, Utility Measurement Requirements.
2. The contractor shall run above grade sewer lines properly supported and buried sewer lines at an excavation depth up to forty-eight inches (48") below the surface (Excavations

beyond forty-eight inches (48”) requires COR approval). A sewer line may be installed both above and below grade in order to maintain proper pitch.

a. Sewer line shall be placed in a trench separate from the water line and at a distance that is in compliance with state and local codes, or three feet (3’) apart, whichever is greater.

b. Contractor shall work with State and local officials to ensure sewer lines are installed at an appropriate depth.

c. Documentation indicating that the sewer line is installed at the appropriate depth and meet state and local regulations shall be provided to the COR within the appropriate time frame (See Section F.6, Area #34).

d. Above grade service lines beneath the MHU shall be installed clear of the ground, made with the minimum number of joints, be of the shortest practical length, and be supported at a maximum of four foot (4’) intervals with steel strapping.

Note: All excavations greater than forty-eight inches (48”) deep require prior approval from the COR before excavation begins.

At sites with sewer riser already installed, the contractor shall make the connection between the connecting point and the riser up to the sewer line. If a sewer riser is not in place, the contractor shall make an appropriate sewer tap on the sewer collection line and install the necessary piping and riser connection.

A clean-out fitting will be installed inside the skirting of the MHU, in an accessible location, to facilitate snaking-out a clogged line from the connection point, through the riser and into the main or service line. The pipe fitting that attaches the sewer connection to the drain outlet of the manufactured home shall be threaded and screwed or installed with a removable adapter for the drain outlet. The nominal inside diameter of the unit sewer connection shall not be less than three inches (3”). The slope of the sewer line shall be continuous and at least one-quarter inch (1/4”) per foot and no more than one-half inch (1/2”) per foot. Thrust blocks shall be added at any 90 degree turns. Above ground sewer lines shall be supported at four foot (4’) intervals (maximum) to prevent any deflections.

The fitting between the unit sewer line and sewer riser (placed above ground) will comply with all appropriate plumbing, safety, and health codes and requirements. This includes:

1. An approved and appropriate four inch by three inch (4”x3”) adapter (ASTM D1785 Schedule 40**)**. The lower end of the unit sewer line shall extend at least four inches (4”) below the rim of the riser with an air tight connection provided by the use of a rubber ring.
2. Pipe shall be an approved and appropriate rigid PVC sewer pipe utilizing proper primer and cement. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564.

3. Absolutely no flex-hose allowed.
4. The line shall be of the shortest practical length and include a clean-out "Y" that would allow cleaning and/or clearing of the line from and to the unit as well as from and to the connection or sewer drop point.

When a tap into the municipal sewage system is necessary, the contractor shall excavate, install the tap, and connect to the sewer line from the unit and backfill, according to local requirements. The sewer tap shall be made in accordance with local regulations regarding sewer tap installations.

In the event the governing entity has a predetermined fee for sewer taps, such fee may be paid by the contractor at the discretion of the COR as authorized by the CO, and reimbursed (Refer to 4.2.10.1) at actual expense (individual receipt and proper documentation required).

The contractor shall test the sewer line for leakage, and any leaks shall be repaired at no additional expense to the extent the installation or materials were deficient. The contractor is responsible for expenses to repair sewer lines that they install. All sewer piping and installation shall be installed in accordance with local codes and the Uniform Plumbing Code. If the unit has multiple sewer drop points, they will be interconnected to a single unit drop point.

C.4.2.10.1 Additional Sewer Line Installation Requirements

If the contractor does not have authorization for additional sewer line installation that is not included in the original work order, the contractor shall request a modification to the work order from the CO or COR.

1. Sewer runs beyond fifty feet (50') for private sites, twenty-five feet (25') for existing commercial mobile home parks, commercial park expansion and group sites shall be documented using FEMA form specified in Section F: Deliveries or Performance, Section F.6, Area #33 and Section J, Attachment J. 24 and require COR approval prior to installation.

   Payment for work completed under this section is CLIN# 0004BK (for above ground).

   Payment for work completed under this section is CLIN#0004BM (for below ground).

2. When a tap into the municipal sewage system is necessary, the contractor shall excavate, install the tap, and connect to the sewer line from the unit and backfill, according to local requirements. The sewer tap shall be made in accordance with local regulations regarding sewer tap installations.

In the event the governing entity has a predetermined fee for sewer taps, such fee may be paid by the contractor at the discretion of the COR and reimbursed at actual expense (individual receipt and proper documentation required).

Payment for the "sewer tap fee" use CLIN # 0004BI.

3. All excavations greater than forty-eight inches (48") deep require prior approval from the COR before excavation begins.

Payment for work completed under is CLIN # 0004CI.

C.4.2.11 Install and Test HVAC

The contractor shall install the HVAC system provided with the MHU using properly qualified personnel and/or personnel who are licensed under State or local codes, as applicable. FEMA MHU's either come with the entire HVAC system attached to the MHU or with an air conditioning condenser unit that requires installation separate from the MHU. Installation of all HVAC components, including any external compressor units, shall be in compliance with the manufacturer's instructions. For replacement of original thermostat provided by manufacturer (either at time of installation, or maintenance repair) the contractor shall provide documentation from HVAC manufacturer showing compatibility and approval of the replacement (non-configurable) thermostat, as well as testing procedure for proper configuration. Additional requirements for all types of MHUs (MH, PM and TT) include:

1. The contractor shall obtain appropriate permits and meet all local codes and ordinances pertaining to the installation of the Heating, Ventilation, and Air Conditioning (HVAC) unit.
2. All components shall be installed in accordance with State and local codes, as well as the NEC.
3. The contractor shall supply all the materials for this installation, with the exception of the A/C condenser unit which is provided as GFE with the unit.
4. External A/C unit electrical installation includes burial cable and thirty (30) amps breaker (disconnect switch) as part of the installation.
    a. A/C unit shall be located within ten feet (10') of the A/C electrical breaker unless the unit is permanently mounted.
    b. The contractor shall provide underground service, in compliance with all codes and regulations, from the electrical service to the A/C unit.
5. All cables shall be installed and encased in approved conduit.

6. Sweeps shall be used at the points where buried cable makes a ninety degree (90°) turn toward the meter loop assembly and A/C. All conduit connections shall be watertight.
7. Prior to reporting the unit as RFO and requesting a Government acceptance inspection the contractor shall operate the HVAC unit in both the heating and cooling modes for at least thirty (30) continuous minutes in each mode to ensure that they are fully operable to ensure proper function and reliability. HVAC unit installation shall be considered part of the basic unit installation.

C.4.2.12 Skirting

The contractor shall furnish and install skirting for all MHUs. Skirting shall be provided and installed in accordance with Federal, State, Tribal and Local codes/ordinances. The contractor shall furnish and install skirting on the entire perimeter of a manufactured home in accordance with manufacturer's recommendations and normal standards of industry. Upon request by FEMA, the contractor shall furnish and install vinyl insulated skirting on the entire perimeter of manufactured home to meet proper winterization-protection requirements. The material shall have at least an acceptable R-value based on the location within the Thermo Zone Map located in HUD Code CFR 3280.506. Zone 3 shall have a minimum of R-10 (typical of 2" foam), Zone 2 shall have a minimum of R -5 (typical of 1" foam), and Zone 1 shall have a minimum of R-3. The space shall be properly ventilated at a rate of one (1) square foot net free area per one thousand five hundred (1,500) square feet of under-floor area (when a 6 mil vapor barrier is properly installed) and have a top rail to conceal fasteners. The ventilation rate shall be one (1) square foot net free area per one hundred and fifty (150) square feet of the under-floor area when a vapor barrier is NOT used. When vents are installed in non-perforated solid skirting (i.e., insulated skirting) ventilation openings must be placed as high as practicable above the ground and must be located on at least two opposite sides to provide cross-ventilation. Ventilation openings must be covered for their full height and width with a perforated corrosion and weather-resistant covering that is designed to prevent the entry of rodents. In areas subject to freezing, the coverings for the ventilation openings must also be of the adjustable type, permitting them to be in the open or closed position, depending on the climatic conditions. An access panel or equivalent shall be provided in proximity to the manufactured home water inlet location. The skirting shall be securely fastened to the manufactured home and ground using accepted fastening methods. (Nails will not be accepted). The contractor shall ensure that the connections to the Residential Fire Sprinkler System's Tank and Pump System pass through the skirting so that the connections are not cut or damaged by the skirting.

Installation of skirting for travel trailers is optional and must have prior approval by the COR.

Payment for skirting in a TT use CLIN #0004CT.

C.4.2.13 Clean and Make Unit Ready for Occupancy

Upon completion of unit installation, the contractor shall assemble all furniture and clean the unit to include dusting or wiping down all flat surfaces of the counters, cabinets (interior and exterior) and furniture; sweeping and/or mopping floors as is needed to ensure that the floors are clean and dirt free; cleaning all bathroom fixtures; clean windows (interior and exterior) so that they are dirt and streak free; all appliances, cabinets, shelves, kitchen, and bathrooms. All appliances and components associated with the unit shall be tested, to include but not limited to plumbing, including hot and cold water (ensure that the hot water tank is filled with water prior to switching circuit on for the hot water tank), electrical, HVAC, exhaust fans, etc. Refer to Section F: Area #16 and Section J, Attachment J.36.

C.4.2.14 Residential Fire Sprinkler Installation

During the installation of an MHU whether at a private site, commercial park, commercial park expansion or a group site, the contractor shall install and test the Residential Fire Sprinkler System in accordance with the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment, J.38). The contractor shall also ensure proper installation and testing of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

The contractor shall test the system as required by the AHJ and NFPA 13D, and submit documentation of testing for approval. All sprinkler system valves that are accessible to occupants or the public are equipped with locks. Locks associated with the sprinkler system in a MHU are keyed alike. Components of the residential fire sprinkler system that are behind a door have a single master key for the locks in all MHUs. Access through keyed doors is provided with a single master key. The master key for access to the residential sprinkler equipment compartment meets the same requirement as the water heater compartment door. Keys are labeled and provided to the installation and maintenance contractor.

The contractor shall ensure that that all hoses and cables are placed under the MHU and are not impinged in any way by the MHU blocking, strapping or other material used as part of the MHU installation. The contract shall install a red decal with white lettering across the breaker serving

the Residential Fire Sprinkler System's Tank and Pump System stating "Sprinkler System - Do Not Turn Off except for Maintenance".

Payment for installation of Residential Fire Sprinkler System in a TT use CLIN # 0004BH.

C.4.2.15 Removal of Equipment, Excess Materials and Debris

The contractor shall remove all equipment, excess materials brought to and debris created at the site, used to setup the MHU or created as a result of the installation.

Payment for this work is part of basic installation for each housing unit type installed.

C.4.2.16 Heavy Equipment to Position on Site

The contractor shall furnish appropriate equipment that may be needed to place an MHU or other prefabricated unit on a designated site. The COR and/or FEMA Project Monitor or designee shall pre-approve use of the heavy equipment.

Payment for this work is part of basic installation for each housing unit type installed.

C.4.3 Standard Stairs, Platform Steps, and Ramps

Stairs, platform steps and ramps are to provide access/egress to the MHU. All stairs, platform steps and ramps shall have appropriate railings. In addition the stairs, platform steps and ramps shall have a platform at the access/egress door to the housing unit that is five feet by five feet (5'x5'). Standard Stairs, Platform Steps and Ramps shall be installed in such a way that the installation and use does not damage or impinge of the Residential Fire Sprinkler System's Tank and Pump System connections for the MHU.

Strapping and anchoring shall be governed by the stricter of the stipulations found in either the manufacturer requirements, or the official instruction of the state or local authority having jurisdiction (AHJ). The strap shall be 1¼" x 35/1000" thick cold rolled galvanized steel, as per Federal Specification QQ-S-781 G for Type 1 Class B, Grade 1 strapping. The anchor straps shall be snug and in a near vertical position.

Payment for strapping and anchoring of all steps, stairs, and ramps are included as part of stairs, platform steps and UFAS ramp construction.

C.4.3.1 Standard Stairs

The contractor shall install standard stairs at each rear entrance to the MHU and are included as

part of the basic temporary installation. All standard stairs shall be constructed so that they meet the applicable state and local code. If no local code exists, the contractor shall notify the COR in writing and use the most recent version of the International Residential Code (IRC) as of the date the work order is executed. The following specifications apply to all standard stairs:

1. All standard stairs shall be built to require no maintenance during the typical span of an MHU installation (approximately two (2) years unless they are impacted by a distressing event (e.g., standard stairs are hit by a car). All wood material shall be exterior grade lumber or treated construction grade lumber.
2. Standard stairs shall have a stable, anchored foundation and shall be level in both directions.
3. All standard stairs shall be properly strapped and anchored (Refer to Section C.4.3.4).
4. Alternate materials for step construction, approved by State or local code enforcement, may be substituted with the COR's approval.
    a. The contractor is responsible for providing approval from the State of local approval authority to use substitute material.
    b. Approval does not waive any safety requirements. If the standard stairs present a safety hazard, the contractor shall build standard stairs and platforms appropriately as determined by the COR with authorization from the CO.

As a standard, standard stairs will have:

1. Decking screws shall be used instead of nails or drywall screws.
2. No less than a ten inch (10") tread depth.
3. Step width shall be forty-eight inches (48").
4. Stair risers with a minimum of six inches (6") and a maximum of seven and one-half inches (7½").
5. Top platform shall be sixty inches by sixty inches (60"x60") framed with two inch by six inch (2"x6") treated lumber, with joist spacing of sixteen inches (16") on center.
    a. The platform shall be constructed so the finished surface will be level with the entry door threshold.
6. Top surface of all standard stairs and platform shall be painted with a skid resistant paint material. Stick on adhesives and sand added to paint are NOT permissible.
7. Standard stairs shall be constructed so that water will NOT accumulate on the walking surface.

8. All stairs shall have two (2) handrails and shall include vertical balusters or pickets spaced in such a way that a four inch (4") diameter sphere may not pass through them. This includes all stairs unless specifically prohibited by Federal, state, and local codes and regulations.
    a. Handrails shall be painted with a minimum of one coat of white exterior grade paint.
9. Each set of stairs shall have two (2) grab rails.
    a. Grab rails shall be between one and one-quarter inch (1¼") or thirty two millimeters (32mm) and one and one-half inch (1½") or thirty-eight millimeters (38mm), or the shape shall provide an equivalent gripping surface.
    b. If grab rails are mounted adjacent to a wall, the space between the wall and the grab rail shall be one and one-half inch (1½") or thirty-eight millimeters (38 mm).
10. Stairs shall be constructed of treated outdoor building material. One and one-quarter inch (1¼") decking material shall be used for all standard stairs and platform surfaces, and two inch (2") treated material is required for support runners.
11. Installation of stairs shall ensure that the structure does not block or interfere with any vents or other parts of the MHU (e.g., the heat vent on travel trailers).
12. Standard stairs shall be set up to the latch side of the door or center unless approved in advance by the COR. That is, the door, when fully opened, shall not obstruct the stairs.

During the installation of PM units, the contractor may, at their option, use a single porch bridging between both doors, provided the PMs have both entrance/exit doors on the same side of the unit, with a single set of stairs or platform stair servicing the porch. For invoicing purposes, the contractor shall bill the alternate installation as two sets of stairs. However, if FEMA directs the contractor to install a UFAS ramp the contractor shall install both a set of stairs and a ramp even if they service the single porch/platform.

C.4.3.2 Platform Stairs

Platform stairs proivde a shorter rise and longer run than a standard stairs. They are designed to allow someone how has trouble with movement (e.g., has a walker or uses cruches) with easier access to an MHU.

The contractor may be tasked to install platform steps as an alternative to standard stairs. All platform stairs shall be constructed so that they meet the applicable state and local code. If no state or local code exists, the contractor shall notify the COR in writing and use the most recent version of the IBC as of the date the work order is executed. The following specifications apply to all platform steps:

1. All platform steps shall be built to require no maintenance unless they are impacted by a distressing event. All wood material shall be exterior grade lumber or treated construction grade lumber.
2. Platform steps shall have a stable, anchored foundation and shall be level in both directions.
3. Platforms shall be anchored and strapped with a minimum of one anchor and strap.
4. Platform stairs shall be properly strapped and anchored (Refer to Section C.4.3.4).
5. Alternate materials for step construction approved by State or local code enforcement may be substituted with the COR's approval.
    a. The contractor is responsible for providing supporting documentation of the State or local approval of substitute material.
    b. Approval does not waive any safety requirements.

As a standard, platform stairs will have:

1. A thirty-six inch (36") tread depth.
2. A forty-eight inch (48") tread width.
3. A maximum rise of six inches (6").
4. Sideboards are required along the outer edges of the steps at a four inch (4") height.
5. Top platform shall be sixty inches by sixty inches (60"x60") framed with two inch by six inch (2"x6") treated lumber, with joist spacing of sixteen inches (16") on center. The platform shall be constructed so the finished surface will be level with the entry door threshold.
6. All stairs shall have two (2) handrails and shall include vertical balusters or pickets spaced in such a way that a four inch (4") diameter sphere may not pass through them. This includes stairs less than thirty inches (30") in height whether or not required by applicable codes unless specifically prohibited by Federal, State, and local codes and regulations.
    a. Handrails shall be painted with a minimum of one coat of white exterior grade paint.
7. Each set of stairs shall have two (2) grab rails.
    a. Grab rails shall be between one and one-quarter inch (1¼") or thirty two millimeters (32mm) and one and one-half inch (1½") or thirty-eight millimeters (38mm), or the shape shall provide an equivalent gripping surface.
    b. If grab rails are mounted adjacent to a wall, the space between the wall and the grab rail shall be one and one-half inch (1½") or thirty-eight millimeters (38 mm).

8. Platform stairs shall be constructed of treated outdoor building material. One and one-quarter inch (1¼") decking material shall be used for all steps and platform surfaces, and two inch (2") treated material is required for support runners.
9. All installations of stairs shall ensure that the structure does not block or interfere with any vents or other parts of the MHU (e.g., the heat vent on travel trailers).
10. Top surface of all standard stairs and platform shall be painted with a skid resistant paint material. Stick on adhesives and sand added to paint are NOT permissible.
11. Platform stairs shall be constructed so that water will NOT accumulate on the walking surface.
12. Platform stairs shall have a riser/kickplate in compliance with the International Building Code (IBC).
13. Platform stairs shall be set to the latch of the door or center.

C.4.3.3 Uniform Federal Accessability Standards (UFAS) for Ramp Construction

UFAS ramps are designed to provide ease of access to an MHU for an occupant who needs a wheeled mobility device (e.g., wheel chair or scooter). Diagrams which will assist the contractor in understanding UFAS ramp requirements and the measurement of said ramp are located in Section J, Attachments J.26, J.56, and J.57.

1. The contractor shall ensure that ramps are built and installed in accordance with the current UFAS requirement, at the time of work order execution, unless UFAS conflicts with State or local regulations in which case the more stringent regulations are applicable.
2. The contractor shall install a wooden ramp with a platform, at the unit entry. The platform provides an area that allows the occupant to easily access or egress the MHU. Thresholds at accessible doorways shall not exceed 1/2 in (13 mm) for entry doors. Raised thresholds and floor level changes at accessible doorways shall be beveled with a slope no greater than 1:2 (e.g., One inch (1") transition should have at least a two inch (2") slope). All wood material shall be exterior grade lumber or treated construction grade lumber. Platforms shall be sixty inch by sixty inch (60"x60") square.
3. The overall length of the ramp shall be dependent on the height above the grade of the unit door sill and the distance to a suitable, firm surface for the approach to the ramp. To ensure consistent measurement of ramps for invoicing and authorization purposes the contractor shall measure the ramp starting where the ramp slopes away from the upper platform which provides access to the MHU.
4. The upper platform shall not be included in the measurment of the ramp. If the ramp has one or more switchback platforms then the contractor shall measure the switchback along

its longest length of the platform.

5. The UFAS required transition (access pad) at the bottom of the ramp is not included in the ramp measurement. Suitable surface materials are asphalt, concrete, or engineered boardwalks. Additional details and guidance on measuring a ramp are provided in Section J: Attachment J.26, UFAS Ramp Construction.
6. The ramp pitch shall be one to twelve (1:12) maximum, which represents one inch (1") of height maximum for each twelve inches (12") in length and shall have landings at the top, bottom, and every thirty feet (30') in length. ~~Platforms shall be sixty inch by sixty inch (60"x60") square.~~ Intermediate platforms shall be appropriately sized for their intended purpose (e.g. for a 90 degree turn an area of 60" x 60" is required, switchbacks would be sized differently, as would platforms intended as a rest point for ramps greater than 30').
7. Ramp surfaces shall be firm, stable, and slip resistant. The ramp shall be firmly supported on grade, with mud seals added where necessitated by soil conditions. The ramp and the platform shall have a non-skid surface using materials that are approved by industry. *Note*: Sand added to paint for traction is unacceptable.
8. The contractor may supply modular aluminum ramps that are compliant with UFAS in lieu of wood ramps. These ramps shall be acceptable by State and local authorities, shall comply with the foregoing requirements, and shall be approved by the COR.
9. Standard Ramp Length
    a. The length of a ramp for a manufactured home or park model is forty-five linear feet (45') of ramp, which includes forty feet (40') of ramp at a one to twelve (1:12) maximum ramp pitch and includes a five foot (5') interim rest platform, as ramps greater than thirty feet (30') need to have an interim way point to be in compliance with UFAS.
    b. The length of a basic ramp for a travel trailer is thirty feet (30').
10. Additional Ramp Length: For ramps that exceed the standard length for a manufactured home, park model, or travel trailer, prior COR approval is required.

    Payment for additional ramp length use CLIN # 0004BC.

C.4.4 Optional Temporary Installation Requirements

Any items listed below as optional MHU installation requirements that are required to make a unit functional or ensure the safety of the MHU not covered in other parts of this PWS will require approval from the COR as authorized by the CO. The contractor shall develop a price proposal for

all work to be carried out as part of this assignment. The final negotiated price will become a fixed price item.

C.4.4.1 Direct Wiring of Well Pump

Wiring for a well pump shall have the appropriately sized conductor and be buried. Wiring buried less than twenty-four inches (24") below grade shall be encased in approved conduit. Sweeps shall be used at the points where the buried cable makes a ninety degree (90°) turn toward the meter loop assembly and well pump. Installation of the wiring shall include a disconnect/overcurrent device. Installation shall conform to all Federal, State, local and National Electrical codes.

Payment for work completed under this section is CLIN # 0004BV.

C.4.4.2 Bladder (Flexible Holding Tanks)

When specified, the contractor shall provide and install a poly-plastic bladder (holding tank) to store potable water or capture and store waste water from the MHU. The bladder shall be appropriately sized and installed in compliance with manufacturer's instructions (which shall be provided to the COR within a time period specified in: MHUM SCOPE and the following details.

- Bladder shall be installed in such a manner as to not pose a safety hazard and provide easy access for pump out.
- Pipe shall be an approved and appropriate rigid PVC for potable or waste water (absolutely no flex-hose allowed).
- Pipefitting shall be attached to the potable or waste water connection. Pipefittings that are attached to the drain outlet of the manufactured home shall be threaded and screwed or installed with a removable adapter for the drain outlet.
- Nominal inside diameter of the potable water connection shall not be less than three quarters of an inch (3/4").
- Nominal inside diameter of the waste water connection shall not be less than three inches (3").
- Slope of the line for waste water shall be continuous and at least one-quarter inch (1/4") per foot and no more than one-half inch (1/2") per foot.
- Supports for the sewer line shall be placed at four foot (4') intervals (maximum) to prevent any deflections.
- Installation of the bladder and associated parts shall comply with all appropriate plumbing, safety, and health codes and requirements.

- Clean-out fitting shall be installed for the sewer line in an accessible location at or near the connection point of the MHU to facilitate snaking-out a clogged line from the connection point, through the sewer line and into the bladder.

Payment for work in C.4.4.2, including all bullets, use CLIN #0004BO.

C.4.4.3 Installation and Provision of Liquid Propane (LP) or Installation/Connection for Natural Gas

This section is applicable to units that are equipped for Liquid Propane or natural gas use. The installation of liquid propane or natural gas shall be in accordance with State and local codes. If possible, the installation shall be performed in order to allow convenient recovery of the tank(s). The contractor shall ensure that the entire system is checked for leaks and repaired if any are found.

Payment for work completed for liquid propane installation under this section is CLIN #0004CK.

Payment for work completed for natural gas connection is CLIN #0004CO.

Payment for work completed for LP initial fill is CLIN #0004CM.

C.4.4.3.1 Convert appliances from Natural Gas to Liquid Propane (LP)

Convert appliances from Natural Gas to Liquid Propane. For use when there is an MHU that is suited for Natural Gas but the available source is Liquid Propane.

Payment for work completed under this section is CLIN #0004CQ.

C.4.4.4 Electrical Gang Rack Distribution System

A gang rack system shall be constructed with the same requirements of a two hundred (200) amp power pole meter loop, but shall consist of two (2) or more two hundred (200) amp meter loops designed to supply power to the power pedestals. A gang rack system may be used in a commercial park, group site, or on a private site that has multiple MHUs.

If a gang rack system is deemed necessary, the contractor shall develop a price proposal for all work to be carried out as part of this assignment. The final negotiated price will become a fixed price item.

Payment for work completed under this section is CLIN # 0004CG.

C.4.4.5 Water Line Winterization

When conditions dictate, the COR may direct the contractor to install freeze protection heat tape and insulate the water supply piping and shut-off valves to prevent freeze-up of the system. A

commercial grade heat tape shall be installed in compliance with the cable manufacturer's instructions. A copy of these instructions is to be provided to the COR within a time frame specified in: MHUM SCOPE (See Section J, Attachment J.1). If the contractor uses heat tape and insulation from multiple manufacturers, instructions from each of the manufacturers shall be supplied to the COR.

The heat cable (heat tape) shall be UL listed commercial pipe heating cable and be rated at a minimum of three (3) watts per foot at one hundred and twenty (120) volts and have provisions for grounding. The heat cable shall be of a type that will not damage PVC or other non-metallic water pipe under the heat cable installation procedures required therein. The heat cable shall be installed in compliance with the cable manufacturer's instructions and the following additional details:

1. Sealed end of the heat cable will be securely fastened to the unit water pipe at a point that is above grade and installed approximately eighteen inches (18") down the riser pipe and then wrapped up the riser into the manufactured home water heater compartment for a minimum of two inches (2"). The heat cable shall be applied to the outside of the bend at elbows and securely fastened with tape.
2. Preformed insulation and weatherproof covering shall be placed on the pipe and fastened with a continuous strap of weather resistant tape. The insulation, covering and tape shall extend into the water riser sleeve and water heater compartment approximately twelve inches (12") with the sealed end of the heat cable covered. Riser shall be filled with an appropriate insulation and top of riser shall be sealed with an appropriate cover.

Payment for this work is part of basic installation for each housing unit type installed.

C.4.4.6 Miscellaneous Installation

C.4.4.6.1 Miscellaneous Installation – MH/PM on Private Site

Miscellaneous Expenses for Private Site Preparation and/or MH/PM installation over & above basic installation charges. This CLIN is only to be used if the work required does not fit within the definition of any other installation CLIN. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under Miscellaneous Install and site prep for MH/PM use CLIN # 0004AG.

C.4.4.6.2 Miscellaneous Installation – Travel Trailer on Private Site

Miscellaneous Expenses for Private Site Preparation and/or Travel Trailer Installation over & above basic installation charges. This CLIN is only to be used if the work required does not fit within the definition of any other installation CLIN. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under Miscellaneous Install and site prep for TT use CLIN # 0004AI.

C.4.4.6.3 Miscellaneous Installation – Commercial Park

Miscellaneous Expenses for commercial site preparation over & above basic installation charges. This CLIN is only to be used if the work required does not fit within the definition of any other installation CLIN. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under Misc. Install and site prep (ONLY FOR COMMERCIAL PARKS) for MH/PM use CLIN # 0004AO.

Payment for work completed under Misc. Install and site prep (ONLY FOR COMMERCIAL PARKS) for TT use CLIN # 0004AQ.

C.4.4.6.4 Miscellaneous Installation Requirements – Cold Weather Entry

C.4.4.6.4.1 Miscellaneous Expense for Design of Cold Weather Entry

Miscellaneous Expenses for the design of Cold Weather Entry. The Cold Weather Entry shall be designed so that it will be constructed at the top of stairs/ramps/platform stairs and are intended to act as protection from wind and snow/ice. The Cold Weather Entry shall be designed in compliance with the appropriate city, county, state, and federal regulations and codes. The Cold Weather Entry shall be designed so that it is not attached to the MHUs but to the platforms and step structures. The contractor shall submit the Cold Weather Entry design to FEMA for review.

Payment for work completed under Misc. Expense for Design of Cold Weather Entry use CLIN # 0004DJ.

C.4.4.6.4.2 Miscellaneous Expense for Cold Weather Entry Installation

Miscellaneous Expenses for the construction of Cold Weather Entry shall be constructed at the top of stairs/ramps/platform stairs and are intended to act as protection from wind and snow/ice. The Cold Weather Entry shall be built in compliance with the appropriate city, county, state, and federal regulations and codes. The Cold Weather Entry shall not be attached to the MHUs but to the platforms and step structures. The contractor shall build the Cold Weather Entry in accordance with designs and specification provided by the contractor and approved by FEMA.

Payment for work completed under Misc. Expense for Cold Weather Entry Installation use CLIN # CLIN 0004DL.

C.4.4.6.5 Miscellaneous Installation Requirements – Training

C.4.4.6.5.1 Miscellaneous Expense for RFSS/TPS Installation Training

This is work carried out by contractor staff who attend FEMA training for the installation of Residential Fire Sprinkler Systems (RFSS)/ Tank and Pump Systems (TPS). Training will be provided using just-in-time delivery at the disaster. Classes will be available based on a schedule provided by the COR. At FEMA's discretion, this training may include training for TPS maintenance and deactivation as well. The contractor can request from the COR additional training classes with appropriate justification. FEMA will provide a certificate for each contractor employee who attends training. Training certificates will include an expiration.

Other types of training relating to RFSS and/or TPS can be conducted.

Payment for work completed under Misc. Expense for RFSS/TPS Installation Training use CLIN #0004CJ.

C.4.4.6.6 Miscellaneous Installation Requirements – OTL Installation

This is for work over and above basic installation that is required to install an Off the Lot (OTL) MHU.

Payment for work completed under Misc. Expense for OTL Installation use CLIN #0004DC.

C.4.5 Semi-Permanent/Permanent Installation SCOPE

This section describes the duties of the contractor as it applies to semi-permanent/permanent unit installation. Semi-permanent/permanent installation is the process by which an MHU is fixed to a real property location to be occupied by the landowner and not recovered by FEMA. Semi-

permanent/permanent installation processes and CLINs shall generally be the same as for temporary installation, with the exception of work items listed and detailed below.

Semi-permanent/permanent installations will be in accordance with the Robert T. Stafford Act, 42 USC §5174 Sec. 408 – Federal Assistance to Individuals and Households for permanent/semi-permanent housing installation, and 24 CFR §3285 (MODEL MANUFACTURED HOME INSTALLATION STANDARDS), and 24 CFR §3286 (MANUFACTURED HOME INSTALLATION PROGRAM), also in accordance with the HUD Installation Standards for Permanent Occupancy, and the HUD - Office of Policy Development and Research - Permanent Foundations Guide for Manufactured Housing. In states where regulations exist concerning installation of manufactured housing, all work shall be in accordance with the State regulations, HUD standards, and FEMA standards. If these standards/regulations are not identical to each other, the more stringent application of the standard shall apply. If the FEMA standard is contradictory to the corresponding State or HUD standard/regulation, the FEMA standard shall be suppressed for that case only.

All construction shall be installed and be in compliance with State/Tribal/Local codes, International Plumbing Code and the International Building/Residential Code. Where no State/Tribal/Local codes govern then all construction shall be in compliance with the Uniform International Plumbing Code and International Building Code. When and where necessary, in order to achieve semi-permanent/permanent housing in accordance with all Federal, State, Local and Tribal codes/ordinances, the contractor shall be responsible to present to the FEMA COR housing installation plans and designs containing any applicable approval of appropriate authorities in order to meet the required minimum standards referenced herein.

If activity occurs on a reservation, particular attention shall be given to organizations/offices such as the Tribal Employment Rights Office (TERO), Tribal Historic Preservation Office (THPO), Tribal Cultural and Environmental, as regards requirements, regulations, sensitivity and awareness. Related cultural and historical/environmental training, and orientation of the FEMA contractor will be given by FEMA prior to the start of work by the contractor.

C.4.5.1 Semi-Permanent/Permanent Installation Requirements

This section provides the requirements necessary to make an MHU installation permanent. Permanent installation requires compliance with all governing requirements and permits that might otherwise be waived under expedient conditions. The basic Semi-Permanent/Permanent installation of each MHU requires the installation of rear stairs and either front standard stairs, platform steps, or a UFAS ramp. Each MHU installed as a Semi-Permanent/Permanent Installation requires the installation of a Residential Fire Sprinkler System's Tank and Pump System when the MHU being installed is equipped with a Residential Fire Sprinkler System.

Installation shall be completed within the timeframe specified in Section F: Deliveries or Performance, Area #82. In addition, a semi-permanent/permanent installation package shall be submitted within the timeframe specified in Section F: Deliveries or Performance, Area #82.

BASIC SEMI-PERMANENT/PERMANENT INSTALLATION ITEMS (WITH FRONT ENTRANCE ALTERNATIVES)			
UNIT TYPE	PWS ITEM / REFERENCE		CLIN
MH / PM / EXPRESS Basic Installation CLIN	***All items below are included in MH/PM/Express Basic Installation:***		0004PA
	• Site Preparation and Unit Delivery	C.4.5.1.1	
	• Crowning and Vapor Barrier	C.4.5.1.2	
	• Installing Foundation System and Leveling Manufactured Homes	C.4.5.1.3	
	• Strapping and Anchoring for Manufactured Homes	C.4.5.1.4	
	• Skirting	C.4.5.1.5	
	• Electric Connections	C.4.5.1.6	
	• Water Connection Requirements (including Water Line Winterization)	C.4.5.1.7 (including C.4.5.1.7.1)	
	• Sewer Line Installation	C.4.5.1.8	
	• Clean and Make Unit Ready for Occupancy	C.4.5.1.9	
	• Residential Fire Sprinkler Installation	C.4.5.1.10	
	• Removal of Equipment, Excess Materials and Debris	C.4.5.1.11	
MH / PM / EXPRESS Front Entrance CLIN Alternatives	***Work Orders will include one of the below which are in addition to MH/PM/Express Basic Installation:***		
	• Standard Stairs (front) OR;	C.4.3.1	0004PA
	• Platform steps OR;	C.4.3.2	0004PA
	• UFAS ramp	C.4.3.3	0004PA
MH/PM/Express (if required)	• Permits	C.4.5.1.12	0004PB
	• Expenses associated with Tribal Employment Rights Office (TERO) (or equivalent) ordinances and regulations	C.16	0015AA

C.4.5.1.1 Site Preparation and Unit Delivery

Site preparation provides the labor and materials required to make a site feasible for the delivery and installation of an MHU. As necessary, the contractor shall clear and remove debris prior to MHU installation. The cleared area shall provide sufficient area for MHU installation and provide occupants adequate access to the home and ensure occupant safety.

C.4.5.1.2 Crowning and Vapor Barrier

All drainage must be diverted away from the home and must slope a minimum of one-half inch per foot away from the mid-line of the MHU to at least five feet (5') outside the unit's footprint, on all sides. Where property lines, walls, slopes, or other physical conditions prohibit this slope, the site must be provided with drains or swales or otherwise graded to drain water away from the structure. Appropriate crowning material shall be utilized that provides maximum compaction and drainage capability (i.e. No. 3 gravel/sand/mix, or similar). Refer to § 3285.902 regarding drainage diverted away from the home and use of drainage structures to drain the property. A vapor barrier shall be installed to cover the ground under the MHU. The entire area underneath the MHU shall be covered with a 6 mil vapor barrier and any joints shall overlap at least 12 inches and be sealed. If additional crowning material is required the vapor barrier shall be installed after the site is crowned.

C.4.5.1.3 Installing Foundation System and Leveling Manufactured Homes

FEMA requires that the contractor comply with applicable regulations for the installation of MHUs. If there is a need to use an alternative system for the installation of the manufactured home the contractor shall have the alternative system reviewed by the Office of Manufactured Housing Programs, Department of Housing and Urban Development or State government equivalent to ensure that the proposed alternative is compliant. Representations by a product manufacturer or vendor or an engineer hired by said organization does not ensure that the proposed alternative is compliant with the applicable regulations.

24 CFR §3285 is referenced where applicable. The contractor shall use pre-cast piers or cast-in-place concrete as specified by FEMA. Constructed piers shall meet or exceed the requirements of the applicable authorities and manufacturer specifications. Footings and piers must be installed at support locations specified by the manufacturer. Unless otherwise directed by the FEMA COR, the minimum requirements for MHUs include:

- Foundation systems that may be specified include: traditional footer and foundation cast-in-place concrete and or concrete masonry units (CMU); or driven steel pilings; or double-blocked CMU on ABS pads placed on the ground; or cylindrical forms 24 inches in diameter filled with reinforced concrete and CMU piers double-blocked above; or other engineered, proprietary, or state-required systems.

- Footings and bottoms of piers shall be placed below the frost line on firm, undisturbed soil, or on controlled fill or bedrock.
- Space between the top of the pier and the bottom of the I-beam frame of the MHU shall not exceed three inches (3”). Up to three inches (3”) of this space may be filled with blocking timber and wedges laid perpendicular to the I-beam, and no more than one inch (1”) of this area shall be shimmed with wedges.
- Piers will be installed on either side of each exterior door opening and any exterior openings, including windows, which are forty eight inches (48”) and wider.
- The contractor shall provide appropriate material for each pier. The approximate size of the minimum ABS base is twenty-four inches by twenty-four inches (24”x24”) as appropriate. Per 24 CFR §3285.310 and §3285.312(b), referenced herein, bottom of footings must be below the frost line depth, unless designed for placement above the frost line (i.e. pre-cast or monolithic pour). The pier footings must be designed using methods and practices that prevent the effects of frost heave.
- Pier height shall be no more than forty four inches (44”) above finished ground for Manufactured Homes, unless State, Local or Tribal regulations/ordinances specify a lower height, but taking into account for mandatory requirements or recommendations within the Manufacturer manual. Where more than 44” is required on one end of an MHU due to leveling requirements on-grade, contractor will consult with the FEMA COR for correct and appropriate method to achieve. If engineering approval is required on more than 44” height for one or more piers, then the contractor shall obtain this approval from a licensed engineer and submit the approval to the FEMA COR.
- The contractor shall clean away all grass roots, loose dirt, rocks and debris at the base of the piers.

After the weight of the unit is transferred to the concrete piers, the piers must be vertically aligned and tightly shimmed with wooden wedges, the mobile home shall be level. If the piers are not vertical at the time of final inspection, they shall be removed and reinstalled by the contractor at no additional expense to the Government. The contractor is also then responsible for all necessary re-leveling and re-setting of the unit.

C.4.5.1.4 Strapping and Anchoring for Manufactured Homes

24 CFR §3285 is referenced here as-is applicable. Strapping and anchoring shall be governed by the stricter of the stipulations found in either the manufacturer requirements, or the official instruction of the State or Local permitting entity. Strapping and anchoring must be installed at locations specified by the manufacturer for the wind zone, as established by Housing and Urban Development (HUD) for manufactured homes. Unless otherwise noted to the contractor by the FEMA COR, requirements for MHUs include:

- Straps shall be one and one quarter of an inch by three and one half hundredths of an inch (1 ¼" x 35/1000" or .035) cold rolled galvanized steel, as per Federal Specification QQ-S-781 G for Type 1 Class B, Grade 1 strapping.
- Anchor straps shall be snug and in a near vertical position. The number and spacing of straps is typically dependent on the frame size for the MHU, the length and height of the piers and the wind zone.

Alternatives may be used if the contractor can provide the COR with a current independent study by an appropriately licensed expert to support the conclusion that the alternative measure is equal to or exceeds requirements. The contractor is responsible for ensuring it meets the applicable Local requirements.

C.4.5.1.5 Skirting

The contractor shall furnish and install skirting for all MHUs. Skirting shall be provided and installed in accordance with Federal, State, Tribal and Local codes/ordinances. The contractor shall furnish and install skirting on the entire perimeter of a manufactured home in accordance with manufacturer's recommendations and normal standards of industry. Upon request by FEMA, the contractor shall furnish and install vinyl insulated skirting on the entire perimeter of manufactured home to meet proper winterization-protection requirements. The material shall have at least an acceptable R-value based on the location within the Thermo Zone Map located in HUD Code CFR 3280.506. Zone 3 shall have a minimum of R-10 (typical of 2" foam), Zone 2 shall have a minimum of R -5 (typical of 1" foam), and Zone 1 shall have a minimum of R-3. The space shall be properly ventilated at a rate of one (1) square inch net free area per one hundred and fifty (150) square feet of the under-floor area and have a top rail to conceal top fasteners. The installation of operable louvers shall not be permitted. An access panel or equivalent shall be provided in proximity to the manufactured home water inlet location. The skirting shall be securely fastened to the manufactured home and ground using accepted fastening methods. (Nails will not be accepted). The contractor shall ensure that the connections to the Residential Fire Sprinkler System's Tank and Pump System pass through the skirting so that the connections are not cut or damaged by the skirting.

C.4.5.1.6 Electric Connections

The contractor shall install all electric connections for semi-permanent/permanent construction.

1. The contractor shall provide electric runs for the semi-permanent/permanent installation of a manufactured home.
2. Connections for MHs shall be made in accordance with the manufacturer's standard connection procedures. The contractor shall use the following specifications:

a. The cables shall be buried and properly encased in the appropriate conduit in compliance with all National, State, and local codes and regulations. This includes the cable for the A/C breaker and burial cable.

b. The conduit shall be securely attached to the electrical boxes in accordance with accepted methods and standards and all National, State, and local codes and regulations. Sweeps shall be used at the junction box and meter loop assembly.

3. The contractor shall run electric at an excavation depth in accordance with the National Electric Code (NEC) or a minimum of eighteen inches (18") below the surface, whichever requirement is greater.

4. The electric connection shall not be connected directly into the damaged dwelling where the utility connections would interfere or prevent the dwelling from being occupied, removed, replaced, or repaired.

5. All components shall be installed in accordance with the NEC. All conduit connections shall be watertight. Service entrance cables shall comply with all National, state, and local codes and regulations. The weatherproof disconnect box will be equipped with the appropriate breaker and mounted as prescribed by the local utility.

6. All power connections shall be installed as per the appropriate Federal, state and local codes and regulations. The electrical load for MHs is two hundred (200) amperes (amps).

C.4.5.1.7 Water Connection Requirements

The contractor shall install water connections in accordance with International Plumbing Code (IPC) as applicable, Federal, State, Tribal and Local regulations codes/ordinances. Requirements include:

- Water line installation is measured at the external point of the MHU closest to the water connection for each MHU.
- The contractor shall run the water line at an excavation depth a minimum of six inches (6") below the frost line and not less than thirty-one inches (31") below the surface of the ground with a three-quarter inch (3/4") shut-off valve installed in the water line.
- Water service line must be placed in a trench separate from the sewer line and at a distance that is in compliance with State, Tribal and Local codes, or three feet (3') apart, whichever is greater.
- Backfill materials shall be free of rocks and other debris and shall include a bed of compacted sand six inches (6") above and below the water line.
- Where city/rural/local water supply not available, a well shall be drilled with CO or COR approval.

- If existing water well is not capable of handling required pressure or is found to be non-potable, the contractor will be required to repair/upgrade it to proper-working condition by direction of the CO or COR. If repair/upgrade is not feasible or is not possible, then new well shall be drilled with CO or COR approval.
- Wells shall be drilled to within 20% of the depth that was indicated by the initial area assessment. Anything beyond must be approved by the COR.
- The well water shall be tested in accordance with local regulations for private well supply systems.
- If a new well is deemed infeasible, a supply tank may have to be installed.
- The contractor is responsible for working with State, Tribal and Local officials along with the COR to determine the frost line, and ensure water lines are installed at an appropriate depth.
- Documentation regarding the frost line shall be provided to the COR prior to installation.
- A cut-off valve and a hose bib with anti-siphon valve shall be located adjacent to the unit connecting point, and must be in a convenient location to facilitate shut-off of water to unit and make a water hose connection.
- Water lines shall be three-quarter inch (3/4") schedule 40 PVC plastic pipe, ASTM D-1785, three-quarter (3/4") CPS 200 psi, or equal, subject to prior approval (any other pipe material will require prior approval by the COR). A back flow preventer valve will be properly installed.
- Water connection shall not be connected directly into the damaged dwelling
- The contractor shall test the installed service line for leakage, and any leaks shall be repaired at no additional expense to the government. The contractor shall test water systems for at least a minimum period of time prior to RFO during the temporary pressurizing of the MHU by the water company as coordinated by the FEMA contractor and as described herein in order to confirm RFO.
- The contractor shall contact the COR for instruction and approval if pavement or concrete must be removed and replaced.
- Where Local water pressure is in excess of the manufacturer's recommended maximum psi, the contractor shall install an approved water pressure-reducing device to safeguard the unit's plumbing system.
- Above grade service lines beneath the MHU shall be installed clear of the ground, made with the minimum number of joints, be of the shortest practical length, and be supported at a maximum of four foot (4') intervals with steel strapping, and incased in weatherproofing material.
- Heat tape or equal shall be applied a minimum of eighteen inches (18") deep into the water pipe.

- Water piping shall be installed in accordance with all applicable Federal, State, Local and Tribal codes/ordinances.
- The contractor shall test water systems for at least a minimum period of time prior to RFO during the temporary pressurizing of the MHU by the water company as coordinated by the FEMA contractor and as described herein in order to confirm RFO.

At sites with an existing water service riser, the contractor shall make the connection between the connection point of the MHU and the riser. If the water service riser is not in place, the contractor will make an appropriate tap on the water service line, and install the necessary piping and riser connection to connect the MHU to the service line.

When municipal water tap is required, the contractor shall perform all necessary excavation and installation to connect the MHU to the water supply, according to State, Tribal and Local requirements. The contractor shall also backfill and compact any holes or trenches created. The installation of the water tap (if required) will be accomplished in conjunction with, and according to the regulations of the Local Water Company. Only if required by local authorities, the trench shall not be backfilled until the water tap has been inspected and approved by the water department. In the event the governing entity has a predetermined fee for water taps, such a fee shall be paid by the contractor.

C.4.5.1.7.1 Water Line Winterization

The contractor shall install freeze protection heat tape and insulate the water supply piping and shut-off valves to prevent freeze-up of the system. The heat tape shall be installed in compliance with the cable manufacturer's instructions. A copy of these instructions is to be provided to the COR. If the contractor uses heat tape and insulation from multiple manufacturers, instructions from each of the manufacturers must be supplied to the COR within a time frame specified in: MHUM SCOPE (See Section J, Attachment J.1).

The heat tape shall be Underwriters Laboratories (UL) listed Commercial Pipe Heating Cable and be rated at a minimum of three (3) watts per foot at one hundred and twenty volts (120V) and have provisions for grounding. The heat cable shall be of a type that will not damage PVC or other non-metallic water pipe under the heat cable installation procedures required therein. The heat cable shall be installed in compliance with the cable manufacturer's instructions and the following additional details:

- Sealed end of the heat cable will be securely fastened to the unit water pipe at a point that is above grade and installed approximately eighteen inches (18") down the riser pipe and then wrapped up the riser into the manufactured home water heater compartment for a minimum of two inches (2"). The heat cable shall be applied to the outside of the bend at elbows and securely fastened with tape.

- Preformed insulation and weatherproof covering shall be placed on the pipe and fastened with a continuous strap of weather resistant tape. The insulation, covering and tape shall extend into the water riser sleeve and water heater compartment approximately twelve inches (12") with the sealed end of the heat cable covered. Riser shall be filled with an appropriate insulation and top of riser shall be sealed with an appropriate cover.

C.4.5.1.8 Sewer Line Installation

The contractor shall install all sewer connections for MHUs in accordance with Federal, State, Tribal and Local regulations and codes and ordinances. For all Manufactured Homes requirements include:

- Sewer line installation is measured at the external point of the MHU closest to the sewer connection for each MHU.
- The contractor shall run sewer lines at an excavation depth [below the frost line] up to thirty-seven inches (37") below the surface or to local/state codes/ordinance whichever is greater.
- Water service line must be placed in a trench separate from the sewer line and at a distance that is in compliance with State, Tribal and Local codes/ordinances, or three feet (3') apart, whichever is greater.

C.4.5.1.9 Clean and Make Unit Ready for Occupancy

Upon completion of unit installation, the contractor shall assemble all furniture and clean the unit to include dusting or wiping down all flat surfaces of the counters, cabinets (interior and exterior) and furniture; sweeping and/or mopping floors as is needed to ensure that the floors are clean and dirt free; cleaning all bathroom fixtures; clean windows (interior and exterior) so that they are dirt and streak free; all appliances, cabinets, shelves, kitchen, and bathrooms. All appliances and components associated with the unit shall be tested, to include but not limited to plumbing, including hot and cold water (ensure that the hot water tank is filled with water prior to switching circuit on for the hot water tank), electrical, HVAC, exhaust fans, etc. Refer to Section F: Area #16 and Section J, Attachment J.36.

C.4.5.1.10 Residential Fire Sprinkler Installation

During the installation of an MHU whether at a private site, commercial park, commercial park expansion or a group site, the contractor shall install and test the Residential Fire Sprinkler System in accordance with the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment, J.38). The contractor shall also ensure proper installation and testing of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J,

Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

The contractor shall test the system as required by the AHJ and NFPA 13D, and submit documentation of testing for approval. All sprinkler system valves that are accessible to occupants or the public are equipped with locks. Locks associated with the sprinkler system in a MHU are keyed alike. Components of the residential fire sprinkler system that are behind a door have a single master key for the locks in all MHUs. Access through keyed doors is provided with a single master key. The master key for access to the residential sprinkler equipment compartment meets the same requirement as the water heater compartment door. Keys are labeled and provided to the installation and maintenance contractor.

The contractor shall ensure that that all hoses and cables are placed under the MHU and are not impinged in any way by the MHU blocking, strapping or other material used as part of the MHU installation. The contract shall install a red decal with white lettering across the breaker serving the Residential Fire Sprinkler System's Tank and Pump System stating "Sprinkler System - Do Not Turn Off except for Maintenance".

Payment for installation of Residential Fire Sprinkler System in a TT use CLIN # 0004BH.

C.4.5.1.11 Removal of Equipment, Excess Materials and Debris

The contractor shall remove all equipment, excess materials brought to and debris created at the site, used to setup the MHU or created as a result of the installation.

Payment for this work is part of basic installation for each housing unit type installed.

- The contractor is responsible for working with State, Tribal and Local officials to determine the frost line, and ensure sewer lines are installed at an appropriate depth.
- Documentation regarding the frost line shall be provided to the COR prior to installation.
- Above grade service lines beneath the MHU shall be installed clear of the ground, made with the minimum number of joints, be of the shortest practical length, and be supported at a maximum of four foot (4') intervals with steel strapping.

At sites with sewer riser already installed, the contractor will make the connection between the connecting point and the riser up to the sewer line. If a sewer riser is not in place, the contractor

will make an appropriate sewer tap on the sewer collection line and install the necessary piping and riser connection.

A clean-out fitting will be installed inside the skirting of the MHU or as appropriate, in an accessible location, to facilitate snaking-out a clogged line from the connection point, through the riser and into the main or service line. The pipe fitting that attaches the sewer connection to the drain outlet of the manufactured home shall be threaded and screwed or installed with a removable adapter for the drain outlet. The nominal inside diameter of the unit sewer connection shall not be less than four inches (4”). The slope of the sewer line shall be continuous and at least one-quarter inch (1/4”) per foot and no more than one- half inch (1/2”) per foot. With COR approval above ground sewer lines shall be supported at four foot (4’) intervals (maximum) to prevent any deflections and thrust blocks shall be added at any 90 degree turns.
The fitting between the unit sewer line and sewer riser (placed above ground) will comply with all appropriate plumbing, safety, and health codes and requirements. This includes:

- The lower end of the unit sewer line shall extend at least four inches (4”) below the rim of the riser with an air tight connection provided by the use of a rubber ring.
- Pipe shall be an approved and appropriate rigid PVC sewer pipe utilizing proper primer and cement.
- When given COR approval for above ground sewer installation the piping above ground will be wrapped in appropriate material to prevent freezing at sub-zero temperatures.
- Absolutely no flex-hose allowed.

When a tap into the municipal sewage system is necessary, the contractor shall excavate, install the tap, and connect to the sewer line from the unit and backfill, according to requirements. The sewer tap shall be made in accordance with requirements/ordinances for sewer tap installations. In the event the governing entity has a predetermined fee for sewer taps, such fee shall be paid by the contractor.

The contractor shall test the sewer line for leakage, and any leaks shall be repaired at no additional expense to the government. All sewer piping and installation shall be installed in accordance with Tribal/Local codes and the Uniform Plumbing Code. If the unit has multiple sewer drop points, they will be interconnected to a single unit drop point.

C.4.5.1.12 Installation Permits

The contractor shall identify and obtain all permits that are required for MHU installation, and report the projected time required to obtain permits. The contractor shall be responsible for obtaining necessary permits associated with placing and installing the unit and utility installation. The contractor shall identify the permits required for completing the unit installation. In the event that delays occur in obtaining local government issued permits, the contractor, with COR

authorization, as approved by the CO, and in coordination with the AHJ, has the option to employ the services of a third party permitting agency to expedite processing of permits. In the event that the contractor pays for the permits required for MHU installation, the Government will reimburse the contractor at actual expense (receipt and proper documentation required).

C.4.5.2 Optional Semi-Permanent/Permanent Installation Requirements

C.4.5.2.1 Septic Systems

If the site utilizes an existing septic system, that system shall be inspected and if deemed efficient, a lateral meeting the same sewer line design standards described previously, shall be run from the unit to the system. If the existing system needs to be replaced a new treatment system shall be designed and installed in accordance with local regulations for best practice of sewage treatment. This may include a septic tank or aerator with leach field, or a holding tank if a leach field is deemed infeasible. The design and operation of the system must meet EPA standards as defined in the Clean Water Act.

Payment for work completed under this section is CLIN #0004PC.

C.4.5.2.2 Package Plants

In the event that several homes are located in close vicinity where municipal sewer is not available, a package plant may be a viable option. A price comparison of the package plant versus the individual septic tank systems shall be submitted to the COR for review. A plant shall be used only in the event that a qualified and licensed operator can be found within reasonable distance to operate the facility. The design and operation of the plant must meet EPA standards as defined in the Clean Water Act. Due to lead time in the manufacturing process, the need for a package plant needs to be identified and ordered as soon as possible. Package plants shall be completed within the timeframe specified in Section F, Area #85.

Payment for additional construction work completed under this section to make an MHU installation permanent is CLIN #0004PD.

C.4.5.2.3 Road/Access Preparation

As directed by the COR with written approval from the CO, the contractor shall widen private access roads, grade, install culverts, widen cattle guard (i.e. cribbing), install temporary bridges, clear and remove any debris and any other necessary work to make ingress/egress feasible prior to manufactured home transportation to private/commercial site. Mats shall be kept on-board the transport and considered for use by the contractor before other more extreme access method(s) (i.e. cribbing and temporary bridge). Any specialized equipment shall be proposed to the COR as part of the site inspection process.

Payment for work completed under this section is CLIN #0004PE.

C.4.5.2.4 Extension of Utility Services

As directed by the COR and authorized by the CO, the contractor shall be prepared to coordinate and/or contract with the power utility, water company, and sewer service for the extension of services to the designated property.

Payment for work completed under this section is CLIN #0004PF.

C.4.5.2.5 Miscellaneous Installation Requirements

This is for work over and above basic installation for Semi-Permanent/Permanent installations of MHUs. This CLIN is only to be used if the work required does not fit within the definition of any other installation CLIN. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under Misc. Expense for Additional Expenses when Installing on Tribal Land use CLIN #0004PG.

Section C.5 Maintenance

C.5.1 Maintenance SCOPE

Maintenance is the process of ensuring that MHUs are safe, sanitary, secure, and functional during the time the MHU is installed and occupied. Maintenance consists of a number of different categories such as preventive maintenance, routine maintenance, emergency maintenance, and major repairs. The contractor shall conform to all maintenance requirements as noted in Section F, Area #17.

C.5.1.1 Maintenance Requirements

The following are the requirements for maintenance of MHUs and TPSs, if the contractor is tasked with providing maintenance for the entire term of the housing mission that shall be specified in MHUM SCOPE (See Section J, Attachment J.1). The contractor may be required to provide and perform maintenance activities as directed by the COR and authorized by the CO, for a time period as specified in MHUM SCOPE. If, after the initial period, it is necessary to extend the contractor's requirement for maintenance services, the CO shall extend the services for a time frame specified in MHUM SCOPE. The CO will inform the contractor prior to extending the effective date.

C.5.1.2 Records Transfer

During contract closeout or as required by FEMA, the contractor shall transfer all records, GFE, and any other materials specific to the contract to the subsequent contractor and/or to the COR or the COR's designee.

C.5.1.3 Maintenance Areas of Responsibility

The contractor shall be responsible for all interior and exterior components of the MHU including but not limited to:

1. Plumbing Systems;
2. Electrical Systems;
3. HVAC;
4. Replacement of Components with Wear Life;
5. Access/Egress Systems Components and Windows;
6. Appliances;
7. Interior Components;
8. Exterior Components;
9. Re-leveling and/or re-blocking
10. Stairs and Ramps;
11. Refilling Liquid Propane (as directed by the COR); and
12. Maintaining the Residential Fire Sprinkler System including the Tank and Pump System in accordance with the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). The contractor shall also ensure proper maintenance of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.5.1.4 Maintenance Categories

All repairs shall be classified in the following categories:

1. Preventive Maintenance Inspections and Repairs;
2. Deferrable / Postponeable Maintenance Repairs;

3. Routine Repairs;
4. Major Repairs; and
5. Emergency Repairs.

Type of Maintenance/Repair	Timeframe	Labor	Material	CLIN
Preventive Maintenance Inspection and Repairs (PMIR)	During inspection as specified in Section F.	Included in the PMIR prices	Included in the PMIR prices	CLIN #0005AA
Deferrable / Postponed Maintenance Repairs	During monthly inspection as specified in Section F.	Included in the PMIR prices	Included in the PMIR prices if the material required is within the definition of wear items. For non-wear items it will require CO/COR advance approval. See Section J, Attachment 53.	Labor: CLIN #0005AA Material (wear items): CLIN#0005AA Material(other than wear items) CLIN #0005AD
Routine Repairs	Option A) As defined in Section F; or Option B) If completed during the monthly PMIR, CLIN can only be used for material or appliances replacement reimbursement.	Included in the PMIR prices, unless labor is for a specific specialist trade. Advance COR approval required.	With CO/COR advance approval unless the parts/material required are defined as non-wear items.	CLIN #0005AD CLIN #0005AT (for specialist labor and requires COR approval prior to execution of WO)

Major Repairs	As defined in Section E. Requires COR approval	With CO/COR advance approval	With CO/COR advance approval	CLIN # 0005AF
Emergency Repairs	As defined in Section E. Contractor shall exercise prudent judgment in determining if repair is an emergency. Emergency Repairs do not require immediate COR approval; however, if contractor charges for an Emergency Repair and the repair was a deferrable item or a routine repair item, FEMA reserves the right to pay under the appropriate CLIN.	With CO/COR review/approval	With CO/COR review/approval	CLIN # 0005AJ

C.5.1.5 Inspection, Maintenance and Repair

The contractor shall conduct maintenance and repairs for each installed unit including deferrable/postponed repairs.

C.5.1.5.1 Preventive Maintenance Inspection and Repair (PMIR)

PMIRs will begin between 25-35 days after each unit is RFO'd. PMIRs are required at the time interval as specified in Section F: Deliveries or Performance. PMIR Logs shall be submitted as required in Section F, Area #41.

C.5.1.5.1.1 Preventive Maintenance Inspections

The contractor shall inspect the interior and exterior for damage and ensure that all components are in working order. The inspection shall include, but is not limited to: electrical systems, sewer lines, water lines, residential fire sprinkler system and blocking and anchors. (See Section J, Attachment J.35 for applicable form).

C.5.1.5.1.1.1 Third Party Microbial Growth Inspection Services

When hiring a third party to perform mold sampling, testing, and reporting services, the contractor shall ensure that they:

a) Perform an initial Indoor Environmental Assessment in accordance with standard industry guidelines focusing on identified employee concerns. Utilize best standard procedures and methodologies including but not limited to: Environmental Protection Agency (EPA) guidelines, Institute of Inspection, Cleaning and Restoration Certification (IICRC) S500/S520 guidelines, or similar guidelines.

b) Advise FEMA of any immediate concerns or health/safety hazards.

c) If necessary utilize documented qualitative or quantitative techniques, including indoor air quality direct reading instruments, to determine all appropriate indoor air quality parameters for the area (e.g., temperature, relative humidity, carbon dioxide, etc.).

d) If determined to be appropriate develop a written sampling strategy identifying sampling techniques, methodology, purpose, locations, and justifications.

e) If determined to be warranted, utilize documented qualitative or quantitative assessment techniques, including but not limited to tape, bulk and/or air sampling and analysis, to identify and verify the levels of indoor air quality contaminants of concern, and if present, the potential contributing factors. If sampling is performed, acquire an appropriately representative amount of samples, and acquire samples from other areas and outdoors for comparison, in accordance with industry standards.

f) If determined to be appropriate, utilize documented qualitative and quantitative techniques, identify and assess any other indoor air quality concerns, perceived or otherwise, identified at the time of the site visit.

g) Perform outdoor baseline ambient sampling representative to the indoor sampling, if appropriate. Acquire baseline ambient temperature, relative humidity, and carbon dioxide levels for comparison with indoor levels, if appropriate.

h) Analyze samples by certified laboratories including but not limited to AIHA, EMLAP, etc. with current proficiency tests in place. Include blank samples as determined to be appropriate. Expedite turnaround time for all laboratory analysis.

i) Provide FEMA with a preliminary assessment report at the conclusion of the onsite assessment, to include but not be limited to, observations, initial findings, intermediate recommendations or corrective actions, etc. This may be verbal or in email format.

j) Provide FEMA a copy of laboratory reports when received, if applicable.

k) Provide FEMA with a written Draft Report for FEMA review and comment within 5 business days from receipt of laboratory results and/or 5 days after onsite assessment if no laboratory analysis is warranted.

l) The written Draft Report shall include:

a. A description of the employed assessment methods and protocols to include general survey methodology, sampling strategy, protocol for selecting sample locations, sample collection protocol, and industry standards applicable to sample collection and analysis;

b. Any identified health/safety concerns;

c. Findings and Observations;

d. Results and Conclusions;

e. Identify the assessment criteria used, with reference made to applicable standards, and discuss relevance of results and observations to said criteria and standards;

f. Identify potential sources of indoor air quality contaminants, if present;

g. Corrective action recommendations, if applicable;

h. Recommendations (preventive) for future prevention of recurrence, such as recommendations related to general ventilation, facility maintenance, renovation activities, employee occupancy, management/employee communications, etc., as appropriate;

i. Representative photographs; and

j. Other information as deemed necessary during the assessment.

k. Provide FEMA with a written Final Report within 5 business days after FEMA's review comments are received.

Payment for work completed under this section is CLIN #0005BA.

C.5.1.5.1.1.2 Third Party Microbial Growth Remediation Services

At the instruction of the COR, the contractor shall hire an appropriately licensed and/or certified company to remediate microbial growth in an MHU.

Payment for work completed under this section is CLIN #0005BC.

C.5.1.5.1.2 Preventive Maintenance and Repair Scheduling

The contractor shall give sufficient advance notice of a scheduled PMIR to the unit occupant as specified in Section F: Deliveries or Performance. If the contractor is unable to contact the occupant after a time frame specified in Section F: Deliveries or Performance, the contractor shall notify the COR and submit documented evidence of attempts to make contact. (See Section F.6, Area #20 for additional information.)

C.5.1.5.1.3 Maintenance Inspection Repair

The contractor shall ask the occupant, at the time of the monthly inspection, if there are any maintenance items that they would like to report or have addressed. The contractor shall perform all minor repairs noted or reported by the occupant during the inspection visit without requiring a separate work order. Any inspections or maintenance other than those described above (see C.5.1.4) shall only be conducted at the direction of the COR. During the preventive maintenance inspection, the contractor shall make all minor repairs and repairs/replacement to wear item(s) identified during the inspection including wear item(s) that have been previously reported by the applicant, and classified by the contractor as deferrable. Labor for appliance Repairs/Replacement is included under the PMIR monthly fee.

Minor Repairs: Repairs that can be completed using usual "handy person" hand tools (Section J. Attachment 54). The contractor shall carry an inventory of typical repair items to include but not limited to: screws, nails, adhesives, etc. that enable immediate minor repairs.

Wear Items: An item that does not function as intended and is not fully operational due to reaching its life expectancy through time or use. This includes items that are defective in ways

that render them difficult to use, items that require service or repair, or items missing essential components. Examples of wear items include but are not limited to: washers for faucets, batteries for smoke detectors, filters for HVAC, cabinet/door hinges/knobs, and door latch systems.

Payment for work completed under this section is CLIN #0005AA.

C.5.1.5.2 Deferrable / Postponed Maintenance Repairs

Deferrable maintenance repairs may be deferred until the next scheduled monthly PMI. These items do not present an imminent danger to the health, safety or security of the unit occupant or property. If necessary, they can be elevated to routine maintenance if the deficiency becomes serious. These items are typically required in response to, but not limited to: broken cupboards, loose baseboards, damage to walls, broken blinds, and closet rod repairs. Deferrable/Postponed maintenance requires COR approval for material.

C.5.1.5.3 Routine Repairs

These repairs are serious but do not present an imminent danger to the health, safety or security of the unit occupant or property. These items shall be addressed within a time frame as specified in Section F: Deliveries or Performance. When this completion time would expire on a Saturday, Sunday, or holiday, the time period shall extend to the following operational day, as appropriate. Routine repairs typically include, but are not limited to, minor water leaks, missing siding, broken light fixtures, and running toilets (See Section F, Area #41 and Section J, Attachment J.35.). Materials up to $250 shall be included in a single routine repair (no tools, no special equipment) for the PMIR (Refer to Section C.5.1.5.1) including appliances can be billed under CLIN #0005AC with prior COR approval. However, labor cannot be billed under this CLIN. Labor is included in the PMIR monthly fee. CO approval required if above $3,500.

Payment for work completed under this section is CLIN #0005AD.

C.5.1.5.4 Major Repairs

Major repairs are repairs that materials, labor or a combination of material and labor exceed $250. The contractor shall provide a written description of the work and a price proposal to the COR. All major repairs shall be approved in advance and in writing by the COR. The contractor shall submit a detailed price estimate for the major repair which shall include a project plan with a breakdown of price for equipment, material, labor, and labor hours. The COR will determine if an item is a major repair or part of regular maintenance.

Payment for work completed under this section is CLIN #0005AF.

C.5.1.5.5 Emergency Repairs

Emergency repairs shall resolve or mitigate the immediate threat or imminent danger to the health, safety or security of the unit occupant or property. Emergency repairs include but not limited to: water leaks, electrical short, appliance not working, broken window, door or lock, etc. The contractor may make permanent or temporary repairs when carrying out emergency repairs. If a temporary repair is performed to mitigate the hazard, the permanent repair is to be completed as routine repairs. See Section F: Deliveries or Performance.

If a temporary heating appliance is used, it shall be equipped with an automatic shut-off that activates if the heater is accidentally tipped over. Such temporary appliances shall be provided, at no additional expense to the Government or the occupant, until such time as the permanent appliances are fully operational.

The following are some of the items that may require emergency maintenance. This list is not all inclusive of every event that will require emergency maintenance. The contractor shall use their judgment to ensure that the appropriate action is taken when the contractor determines that there is a maintenance emergency.

The HVAC system within an MHU shall provide a comfortable internal environment. A comfortable internal environment, as related to the HVAC system, is defined by temperature, humidity and “fresh” air. When temperature and humidity exceed accepted comfort parameters, they can affect a disaster survivor’s health and will require emergency maintenance in a housing unit. The temperature range for heating is between 68°F and 74°F when outside the temperature is below 68°F and the temperature range for cooling is between 73°F and 78°F when outside the temperature is above 75°F. In addition, if the temperature is within the acceptable range and the relative humidity (Rh) are above 70 percent that condition would require emergency service for the HVAC system.

Payment for labor completed under this section is CLIN # 0005AJ.

Payment for materials used under this section is CLIN #0005AL.

C.5.1.5.5.1 Emergency Repair Visit and Determination

The contractor shall be compensated for all emergency maintenance visits to a MHU. It is the contractor’s responsibility to perform only the maintenance actions that are required to remediate the emergency. If, upon arrival to the unit, the contractor determines an emergency does not exist, or there is no longer a threat to health, safety or security of the occupant or property, the contractor shall treat the remaining repairs as a routine repair, and complete it within the timeframe of routine repairs as specified in Section F: Deliveries or Performance. The contractor

shall develop policy and procedures that ensure that actions taken in response to emergency calls are prudent. The COR will review the contractor's actions and require justification.

Payment for work completed under this section is CLIN #0005AH.

C.5.1.5.6 Residential Fire Sprinkler System Maintenance

The contractor shall maintain the sprinkler system in accordance with *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Attachment J, Section J.38). The contractor shall also ensure proper maintenance of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. Sprinkler system and all components shall be maintained to protect against physical and freeze damage. Soffit systems, heat tracing, and insulation shall be inspected and repaired as needed to preserve the protection. Residential Fire Sprinkler System and Tank and Pump System maintenance will be billed in the appropriate maintenance CLIN. (e.g., Preventative Maintenance Inspections MHU Routine Repairs). Maintenance on the Residential Fire Sprinkler System and all components is not ever to be conducted as MHU Deferrable / Postponed Maintenance Repairs. Labor is included in the PMIR monthly fee.

Payment for work completed under this section is included as part of the PMIR.

Any required repairs to the Residential Fire Sprinkler System and Tank and Pump System are to be performed by a certified Fire Suppression repair person (see Section J, Attachment J.46 for qualifications). The contractor shall develop a price proposal for all work to be carried out as part of this assignment. The final negotiated price will become a fixed price item.

Payment for work completed under this section is CLIN #0005AV.

C.5.1.6 Fumigation and Pest Control Inspections and Services

These inspections shall be included as part of the PMI. The inspection for pest control shall include the interior and exterior of the MHU and the steps and ramps. The contractor shall comply with all Federal, State, and local laws and regulations when applying treatment or fumigation.

The contractor shall ensure that treatment is rendered as appropriate to control, prevent, and/or otherwise mitigate the presence of pests such as, but not limited to insects, fleas, termites, wasps, bees, cockroaches, ants, fleas, ticks, spiders, hornets, Japanese beetles, rats, mice, pigeons, reptiles

and other invertebrate pests. Treatment shall include rodent traps and bait stations, animal captures and carcass removal. The contractor shall also provide bird nest removal and cleaning services to keep bird droppings off units, and shall clean areas littered by bird nests and droppings.

The contractor shall identify any problem areas, structural features, potential areas for pest infestation, or personnel operational practices contributing to pest infestations, and any other factor and report them to the COR. The contractor shall maintain, secure, and operate storage facilities for applicable equipment and dangerous material substances. This shall be done in a manner that precludes or minimizes health hazards or environmental contamination and will be in compliance with all Federal, State, and local laws and regulations.

All pesticides used by the contractor shall be registered with the Environmental Protection Agency (EPA) and the State Department of Health for the use intended. All pesticide handling, mixing, storage and application shall be in strict accordance with manufacturer's label instructions. The contractor shall ensure that all personnel applying pest control chemicals are properly licensed in accordance with applicable Federal, State, and local laws and regulations.

C.5.1.7 Unit Transfer Between Contractors

The LOGHOUSE contract allows for the transfer of unit responsibility between contractors during a task order. To facilitate the successful transition of unit responsibility from one contractor to another, FEMA strongly recommends a three party inspection of the units. The purpose of the inspection is to identify any issues or concerns with units and will include the incumbent contractor, the impending contractor and a FEMA representative. During the inspection process, all three parties shall thoroughly inspect the units and identify and record any issues found. The FEMA representative will determine which contractor is responsible for correcting the issues and ensure that they are addressed before the transfer occurs. If the impending contractor declines an inspection, they shall be responsible for the condition of the units on the date that the units are transferred to the contractor.

Payment for work completed under this section is CLIN # 0005AX.

C.5.1.8 Emergency Unit Entry Service

The contractor shall perform emergency unit entry service for MHU occupants who are unable to gain entry into the unit. The service shall be performed 24 hours per day, seven (7) days per week. The contractor shall maintain a record of each request (include the unit address and barcode) and submit a post action report to the COR. See Section F, Area #60.

Payment for work completed under this section is CLIN # 0005AP.

C.5.1.9 Septic Pump Out Service

The contractor shall provide septic pump out service for MHUs that have bladders installed to collect waste water. The contractor shall enlist the use of a certified "pumper". The contractor shall provide the COR with the appropriate documentation showing the service provider is certified shall this CLIN be exercised. The bladder shall be pumped at a frequency required to prevent the bladder from over flowing.

Payment for work completed under this section is CLIN # 0005AR.

C.5.1.10 Refill/Refilling of Liquid Propane (LP)

This section is applicable to units that are equipped for Liquid Propane use. The refilling of liquid propane or natural gas shall be in accordance with State and local codes. The contractor shall ensure that the entire system is checked for leaks and repaired if any are found.

Payment for work completed for LP refill/filling is CLIN #0005AM.

C.5.1.11 Miscellaneous Maintenance

C.5.1.11.1 Miscellaneous Maintenance – General

During the maintenance of an MHU there may be issues that cannot be foreseen in advance but are required to complete the maintenance. This CLIN is only to be used if the work required does not fit within the definition of any other maintenance CLIN. The contractor shall develop a price proposal which includes all expenses related to the unforeseen work and present the estimate to the CO/COR for review. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under this section is CLIN # 0005AT.

C.5.1.11.2 Miscellaneous Maintenance – Occupant Substitute Relocation (Housing)

Should it be determined that a MHU requires relocation or an emergency repair will not resolve or mitigate a threat or imminent danger to the MHU and occupant which causes the occupant to not have housing, the contractor shall immediately notify the COR. The contractor can request temporary alternate housing, sanctioned by FEMA, until the repair(s) is complete and safety to the MHU has been restored. Requires prior approval from the COR or CO.

Payment for work completed under this section is CLIN #0005AY.

C.5.1.11.3 Miscellaneous Maintenance – Training

C.5.1.11.3.1 Miscellaneous Expense for RFSS/TPS Maintenance Training

This is work carried out by contractor staff who attend FEMA training for the maintenance of Residential Fire Sprinkler Systems (RFSS)/ Tank and Pump Systems (TPS). Training will be provided using just-in-time delivery at the disaster. Classes will be available based on a schedule provided by the COR. At FEMA's discretion, this training may include training for TPS installation and deactivation as well. The contractor can request from the COR additional training classes with appropriate justification. FEMA will provide a certificate for each contractor employee who attends training. Training certificates will include an expiration.

Other types of training relating to RFSS and/or TPS can be conducted.

Payment for work completed under Misc. Expense for RFSS/TPS Maintenance Training use CLIN #0005BG.

C.5.2 Maintenance Call Center

The contractor shall establish a maintenance call center to provide occupants of FEMA units with a single method of contact to report maintenance and deactivation issues to the contractor. The toll-free number shall be transferable to a subsequent contractor upon completion of the contract or task order. The contractor shall operate a twenty-four (24) hours per day; seven (7) days per week toll free telephone help line for the MHU occupant. This maintenance call center toll-free number shall be established within 24 hours of task order award. The help line system must be either (a) configured to automatically answer a call within four (4) rings, or (b) answered by a live person within four (4) rings.

The system must also provide a means for the caller to speak to a live representative in case of emergencies. This maintenance call center toll-free number shall be established within 24 hours of task order award. After it is established, a FEMA representative may originate a phone call to the center at any time, in order to evaluate the quality of service provided. Since these FEMA-originated test calls must be entered into the Call Log, they will be limited to no more than two calls within a seven day period. The evaluations resulting from these phone calls may be a factor to be considered when FEMA grades Deliverables or Performance.

The contractor shall provide the call center phone number on a medium (e.g., a refrigerator magnet, laminated card stock, etc.) that is durable and easy to read and an adhesive-backed decal (sticker) that is durable and easy to read, applied to the lower half area of the circuit breaker panel (can be placed on the panel door, or left, right or bottom side of panel). This shall be delivered to FEMA as part of the RFO inspection, to MHU residents upon occupancy of the MHU, and shall be carried by maintenance staff on every maintenance visit. If the maintenance staff does not see the

maintenance call number displayed within the MHU, then they are to provide a new copy of the maintenance media to the occupant. Additional information regarding the call center card can be found in Section F: Deliveries or Performance, Section F.6, Area #18. Additional information regarding the call log is specified in Section F: Deliveries or Performance, Section F.6, Area #19.

The call center shall categorize calls as: deferred maintenance; routine maintenance; or emergency maintenance. The contractor shall maintain records of each call and incorporate the records into the quality control process. Maintenance reports shall be provided to the Government as specified in Section F: Deliveries or Performance, Section F.6, Area #21.

Payment for work completed under this section is CLIN # 0005AC.

Section C.6 Deactivation

C.6.1 Deactivation SCOPE

The purpose of the deactivation section is to provide required performance information to the contractor regarding unit deactivation. Deactivation is the process by which an MHU is removed from the site of installation. Deactivation focuses on making the unit ready for transport, transporting the unit, as well as returning the site to its original, pre-installation condition. As part of deactivation, the site must be returned to a safe and secure status and the unit(s) must be cleaned prior to being returned to FEMA.

C.6.2 Deactivation Requirements

Unit deactivation includes:

- Uninstalling the MHU by disconnecting and rendering safe the Residential Fire Sprinkler System including the Tank and Pump System, removing it from blocking and disconnecting it from the utility infrastructure for water, sewer and electric;
- Uninstalling the MHU by removing it from blocking and disconnecting it from the utility infrastructure for water, sewer and electric;
- Ensuring that the site is safe and secure from all hazards created by the installation and uninstallation including but not limited to:
    - Capping all electrical connections, water connections and sewer connections;
    - Filling all holes created from the installation including but not limited to holes and trenches for anchors and utility connections;
- Making the unit ready for transport by:
    - Securing all property (including furniture and alliances) within the unit;
    - Cleaning the unit (Section J, Attachment J.33);

- Deactivate the residential sprinkler system and TPS in accordance with the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). The contractor shall also ensure proper deactivation of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. Make the Tank and Pump System ready for transport and storage by draining all of the water from the system;
- Removing the MHU and TPS from the installation site;
- Removing all installation material from the site;
- Completing the required checklists; and,
- Transporting the unit and the Tank and Pump System back to a designated staging area or other location as specified by the work order or the COR (deactivation includes first 100 miles).

Unit deactivation shall be completed within a time period specified in Section F: Deliveries or Performance after the deactivation work order is issued by the COR for Manufactured Homes, Park Models and Travel Trailers. During deactivation, the contractor shall secure the MHU (including HVAC, furniture, cabinets, etc.) and TPS in such a way to ensure that there is no damage to the MHU or its components. During the transportation process, the contractor shall ensure that the MHU and TPS is secure and not damaged. All damage to the MHU or TPS during transportation is the contractor's responsibility. (See Section F.6, Area#4, Area#23, Area#24, Area#25, Area#26, and Area #55 for additional requirements).

This section of the PWS will serve as the Contracting Officer's written notice that the Contracting Officer is exercising the authority included within FAR Clause 52.245-1 Government Property. Specifically under subsection (k)(2) which states "The Government, upon notice to the contractor, may abandon any non-sensitive property in place, at which time all obligations of the Government regarding such property shall cease." All material other than the MHU, TPS, and the property contained within the MHU is hereby abandoned. This property shall include but is not limited to: anchors; straps; blocking material; crowning material; power poles/pedestals; electrical wire; water and sewer pipes; etc. During MHU deactivation any additional material provided to "crown the installation site," to ensure proper drainage, may be removed and shall become the property of the contractor. The contractor is not required to remove the material if the applicant requests that the material remain on the applicant's property. If the applicant requests any of the materials, the applicant must provide the contractor with a

signed form (see Section J, Attachment J.44) requesting the material and releasing FEMA and the contractor from liability for leaving the material.

Payment for work completed for the removal of Crowning Material is CLIN #0006AY.

C.6.2.1 Clean for Deactivation – Interior

Prior to any deactivation activities, the contractor must verify that all of the disaster survivor's personal property has been removed and perform a thorough cleaning of the unit.

1. All garbage and food stuffs are to be removed from the unit including, but not limited to:
    - Refrigerator and freezer;
    - Cabinet drawers and cupboards;
    - Closets;
    - Medicine cabinet;
    - Underneath furniture;
    - Trash receptacles; and
    - Floors.
2. The following requires cleaning with a disinfectant cleaner:
    - Stove (this includes the stove top, under drip pans and oven interior);
    - Interior and exterior of refrigerator and freezer;
    - Interior and exterior of all cabinet drawers and cupboards;
    - All counter tops;
    - Bath and kitchen sinks;
    - Bathtub and / or shower;
    - Toilet; and
    - Mirrors.

3. The following loose items shall be secured for travel in such a way to ensure that there is no damage to the MHU or its components including, but not limited to:

    - Microwave plate secured,
    - Toilet tank lid secured,
    - Drain hot water heater
    - Fire extinguisher either secured to wall or stored in a safe location for transport,
    - Verify refrigerator and stove remain secured to floors and walls, and
    - Place furniture in safe positions and is restrained from movement for shipping.

4. All hard floor surfaces are to be swept clean of dirt and dust then mopped with a disinfectant cleaner. No residue such as gum or other deposits are to remain on floor after cleaning and mopping.

5. All carpeting in unit vacuumed (if applicable).

C.6.2.1.1 Inventory of Personal Property Procedure

The Inventory of Personal Property (IPP) shall be the responsibility of the Individual Assistance division of FEMA, unless the COR specifically states otherwise. The COR may task the contractor to perform the IPP and issue the contractor a work order on an "as needed" basis. For purposes of the IPP procedure, the terms contractor and contractor staff refers to the prime contractor, any sub-contractor or other labor hired by the prime or sub-contractor.

When an IPP work order is issued, the contractor shall be responsible for determining if there is personal property in the MHU at the time of deactivation. The IPP shall be documented using the attached "Former Occupant Personal Property Inventory" form (See Section J, Attachment J.49). In addition, the 90-13 form shall be annotated (in the Comments section) to inform FEMA staff that the IPP procedure was conducted.

The IPP procedure requires a minimum of two (2) contractor staff be present at all times during the inventory. One contractor employee shall secure all personal property in clear, contractor grade, minimum 30 gallon (but not larger than 40 gallon), minimum three (3) millimeter thick plastic bags or other appropriate containers. Other appropriate containers shall be sealable and able to clear a standard thirty inch (30") doorway. In no case shall either the bag or container exceed twenty-five (25) pounds in gross weight. The bag or container shall be tagged with the name of the MHU occupant(s) (if known), the MHU VIN, barcode, FEMA Identification Number and property address. (Note: If the occupant is unknown or unauthorized (i.e., a

squatter) the VIN, barcode, FEMA ID # and property address is imperative). The other contractor employee shall document all property on the "Former Occupant Personal Property Inventory" form and complete the form in its entirety (See Section J, Attachment J.49). Care shall be taken when packing personal property to ensure that the items are not damaged while being secured, during transportation, or in storage.

In addition to using the required FEMA forms, the contractor may document the IPP with still photographs or motion video. If the contractor elects to document the inventory in this fashion, the contractor shall provide digital files via email or non-Rewritable CD/DVD to FEMA as part of the Unit Deactivation Report (See Section J, Attachment J.19).

The type of property that shall be inventoried, secured and tagged includes:

- All TVs, radios and appliances belonging to the tenant (exclude the appliances that come standard with the MHU unless they have been removed and replaced with new/different appliances). Documentation shall include the manufacturer, model name/number (if available), serial numbers, a description of the type of item (e.g., TV, radio, dishwasher) and its condition.
- Cash shall be inventoried by documenting the denomination of the bills and the number of each denomination. Credit cards shall be inventoried by noting the name of the credit card provider (e.g., Bank of America, Chase) the type of credit card (e.g., Visa, MasterCard) and the last four (4) digits of the credit card number.
- Legal documents (e.g., driver's license, birth certificates, etc.) shall be documented by identifying the type of document and the name of the person listed on the document (first initial and last name).

If animals are discovered during the deactivation process, contact the local animal control organization to remove or secure and take possession of said animal(s). Each jurisdiction has local rules, policies and procedures for removing or securing and taking possession of animals. Any questions regarding the disposition of animals shall be directed to the local animal control entity. The contractor shall document, on the "Former Occupant Property Inventory" form, the type and disposition of any animals including contact information for the local animal control entity (See Section J, Attachment J.49).

If there are any illegal narcotics, fire arms, ammunition or other items that the contractor suspects or knows are illegal, the contractor shall not touch the items and shall contact local law enforcement. Local law enforcement will make a determination as to the disposition of illegal items. The contractor shall obtain a receipt or file number from law enforcement and shall include that number on the "Former Occupant Property Inventory" form as well as attach the receipt and include a contact number for the responding law enforcement office/officer.

Prescription medication shall be disposed of in accordance with the Food and Drug Administration guidelines found at the U.S. FDA web site.

Items that are flammable shall be identified and disposed of in accordance with Federal, state and local laws.

Items that are food, unless they are packaged for long term storage (e.g., in a can or in a box that do not require refrigeration), shall be disposed of as normal waste.

The bags and containers shall be sealed with tamper resistant material (e.g., security tape) and both contractor employees shall initial each bag or container. The contractors shall document the total number of bags and the total number of containers on the "Former Occupant Property Inventory" form and then both contractor employees shall print their names clearly, sign, date and initial the form (See Section J, Attachment J.49).

The contractors shall place the personal property in the front most bedroom of the MHU. The contractors shall have the transport driver sign for the sealed personal property. When the MHU reaches the FEMA MHSS/MHSA, the driver shall make the FEMA staff aware that there is personal property in the MHU. The driver shall annotate the FEMA Form 90-13 (in the Comments section) with the quantity of bags/containers being transferred and having the FEMA representative sign next to the annotation.

The contractor shall provide three copies of the "Former Occupant Property Inventory" form to FEMA. Copy 1 shall accompany the bags and containers in the MHU; Copy 2 shall be transmitted to the COR within 24 hours via email (The contractor shall ask the COR for an acknowledgement of receipt of the inventory documents); and Copy 3 shall be included with the deactivation package.

Payment for work completed under this section is CLIN # 0006BC.

C.6.2.1.1.1 Damaged or other MHUs with an Exception to the Inventory of Personal Property

If an MHU is damaged beyond repair or is unsafe to enter, the contractor shall notify the COR. After the contractor receives concurrence from the COR as to the MHU’s condition; the items in the MHU shall be abandoned in place and the contractor shall not conduct an Inventory of Personal Property.

If the MHU is infested (e.g., rats, roaches, fleas, etc.) the contractor shall notify the COR. After the contractor receives concurrence from the COR as to the MHU’s condition; the items in the MHU shall be abandoned in place and the contractor shall not conduct an Inventory of Personal Property.

If the MHU is considered to be "extremely dirty" or unsanitary (e.g., feces, significant material scattered, mold, mildew, etc.) the contractor shall document the MHU's condition and forward the documentation to the COR. After the contractor receives concurrence from the COR as to the MHU's condition; the items in a MHU shall be abandoned in place and the contractor shall not conduct an Inventory of Personal Property.

C.6.2.2 Clean for Deactivation – Exterior

The contractor shall prepare the exterior of an MHU for deactivation, as required. This includes, but is not limited to:

1. Disconnecting all utilities, and ensuring that they are properly capped and secured, including removal of any temporary power poles or power pedestals.
2. Removing the skirting, anchors and blocking.
3. Removing stairs and ramps.
4. Disconnecting the air conditioning compressor, and draining refrigerant into a separate unit meeting all regulatory requirements for capturing the refrigerant. The contractor shall ensure that when power and refrigerant lines are disconnected, enough slack remains so that the unit can be reused.
5. Contractor shall remove a previously installed poly-plastic bladder (holding tank) to capture and store waste water from the MHU, if applicable.
6. Ensuring that any holes caused by the removal of the unit and associated materials are filled in and compacted.
7. Ensuring that all tires are properly inflated and that the axles and wheels turn freely. Unserviceable tires, wheels, and axles shall be replaced by the contractor.
8. Completing pre and post transportation inspections of each unit to check for missing or damaged exterior components (i.e. shingles, siding, windows, etc.). All damaged items shall be reported to the COR and recorded as specified in Section F.6, Area #4. All damaged exterior items noted prior to transport shall be repaired. Any damages not recorded and documented properly or caused during transport will be repaired by the contractor at no additional expense to the Government.

The area immediately surrounding the MHU shall be cleared of all debris, equipment and material, including trash generated by the contractor from the deactivation process so as to not create or leave a hazard. Additionally, the contractor shall remove any poles or materials that were installed during the installation process to establish utility connections. If the MHU is not transported the day it is deactivated, all debris, equipment and material are not to be left on the MHU site

overnight. At the time of deactivation, the Government shall consider this debris, equipment, and material scrap the responsibility of the contractor unless the COR directs otherwise. The contractor shall take the ownership of these items and dispose of all materials and supplies in compliance with all Federal, State, and local laws, regulations, and rules. This includes, but is not limited to, spent fuels, batteries, refrigerants, tires, etc. The contractor shall pay any fees associated with the removal and disposal of hazardous waste.

Payment for work completed for MH/PM use CLIN # 0006AE.

Payment for work completed for TT use CLIN # 0006AG.

Payment for work completed for bladder tank removal is CLIN #0006BA.

C.6.2.3 Deactivation of the Residential Fire Sprinkler System

The contractor shall deactivate the system in accordance with the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). The contractor shall also ensure proper deactivation of the RFSS and TPS in accordance with the applicable manual of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62). FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS. Deactivation actions of the contractor shall be sufficient to preclude the accidental activation of the sprinkler system or causing damage to the housing unit, during the removal process. All residential fire sprinkler system components including the Tank and Pump System shall be drained of all water and made secure for transportation.

C.6.3 Emergency Deactivation

Emergency unit deactivation may be requested by the COR. In these cases, the unit shall be removed from the installation site, made ready for transport, and transported back to a designated staging area within a time period specified in Section F: Deliveries or Performance after the deactivation work order is issued by the COR.

Payment for work completed for MH/PM use CLIN # 0006AK.

Payment for work completed for TT use CLIN # 0006AM.

C.6.4 Re-Installation

Should FEMA determine an MHU is no longer habitable and requires replacement; a re-installation work order could be issued. The work order includes the removal of the original unit and the re-installation of a new unit at the same location. The contractor shall have all appropriate permits and licenses within a time period specified in Section F: Deliveries or Performance. The applicant shall not be displaced overnight without prior COR authorization. If displacement is unavoidable, the contractor shall coordinate with FEMA to ensure that alternative housing arrangements are in place. When appropriate, the contractor shall use the same material used in the original installation to re-install the new MHU, as long as the material is in good, sound condition. All applicable requirements and specifications for unit removal and installation apply.

Payment for work completed for MH/PM use CLIN # 0006AU.

Payment for work completed for TT use CLIN # 0006AW.

C.6.5 Relocation

If a MHU is required to be relocated, the contractor shall have all appropriate permits and licenses within a time period specified in Section F: Deliveries or Performance. The work order includes deactivation of the unit at its initial location, and relocation to a new location. The occupant shall not be displaced overnight without prior COR authorization. If displacement is unavoidable, the contractor shall coordinate with FEMA to ensure that alternative housing arrangements are in place. The contractor shall use the same material used in the original installation to relocate the MHU, as long as the material is in good, sound condition. All applicable requirements and specifications for unit deactivation and installation apply for the initial site and the relocation site, respectively.

Payment for work completed for MH/PM use CLIN # 0006AO.

Payment for work completed for TT use CLIN # 0006AP.

C.6.6 Reposition

If an MHU is required to be repositioned on the same site, the contractor shall have all appropriate permits and licenses within a time period specified in Section F: Deliveries or Performance. The work order includes deactivation and installation of the same unit at a new location on the same site. The occupant shall not be displaced overnight without prior COR authorization. If displacement is unavoidable, the contractor shall coordinate with FEMA to ensure that alternative housing arrangements are in place. The contractor shall use the same material used in the original installation to reposition the MHU, as long as the material is in good, sound condition. All applicable requirements and specifications for unit removal and installation apply.

Payment for work completed for MH/PM use CLIN # 0006AR.

Payment for work completed for TT use CLIN # 0006AT.

C.6.7 Clean and Make Ready for Reuse

Clean and Make Ready for Reuse is a process by which previously occupied MHUs are cleaned so that new disaster survivors (and families) can safely move in, or the MHU can be returned to the ready MHU inventory. Since FEMA is not an expert in industrial cleaning, it is utilizing long-standing procedures from the Veteran's Administration (VA). The VA operates many health care facilities and has provided FEMA with sample procedures and processes outlining specific areas of cleaning, which are included in Section J, Attachment J.33.

The following documents are taken from the VA's Veterans Health Administration's (VHA) Environmental Services Program Service Policies Infection Control Program (ICP). The purpose of the ICP is "to establish policies, procedures and guidelines to provide a clean and sanitary environment for patients, staff and visitors in order to prevent cross-contamination and transmission of hospital-acquired (nosocomial) infectious disease". The ICP contained the following sections which are included in this document:

- VHA Cleaning Agents;
- VHA Cleaning Supplies and Equipment Listing; and,
- VHA Standards of Cleanliness.

In addition to the VHA Environmental Services Program Service Policies ICP, the VA provided FEMA with sample Veteran's Administration Medical Center (VAMC) Standard Operating Procedures (SOPs) that the VA provides to each of its medical center facilities, that describes how to clean specific areas and parts of the facility. FEMA has reviewed the VAMC SOPs and will incorporate those that the Agency deems applicable to cleaning an MHU into the clean and make ready for reuse process. The following are the VA Sample Cleaning Procedures that FEMA deems applicable:

- VAMC Carpet Care SOP
- VAMC Door Cleaning and Polishing SOP
- VAMC Equipment Care and Cleaning SOP
- VAMC Floor Care SOP
- VAMC Heat Convectors, Radiators and Vent Cleaning SOP
- VAMC Light Fixture Cleaning SOP
- VAMC Mini-Blind Cleaning SOP
- VAMC Patient Room Cleaning SOP

The SOPs listed above shall be followed in whole or in part as indicated below. FEMA will not change any of the SOPs; however, there are differences between FEMA's MHUs and a VA facility. Therefore FEMA has adapted the SOPs to take into account the differences between a VA facility and a FEMA MHU.

In order not to soil previously cleaned areas, the contractor will clean the MHUs in a logical and orderly fashion that prevents the transfer of dirt from cleaning items or employees. VAMC Equipment Care and Cleaning SOP provide directions on the VA methods for cleaning and maintaining the cleaning equipment. This SOP, when used in conjunction with the VHA Cleaning Agents; VHA Cleaning Supplies and Equipment Listing; and, VHA Standards of Cleanliness, forms the basis for cleaning FEMA MHUs. The contractor will maintain their cleaning equipment using the VAMC Equipment Care and Cleaning SOP as well as the VHA procedures.

VAMC Patient Room (Isolation) (Terminal/Discharge) Cleaning SOP provides the general instructions for cleaning the MHU with the following changes and exceptions which accounts for the differences between VA facilities and FEMA MHUs. FEMA will not provide a vendor with a MHU to be cleaned that has been used for isolation, had an occupant that was terminal or contaminated in such a way that reuse would not be practical or reasonable. When cleaning an MHU all personal property including items such as white goods, i.e. sheets and towels and any other item that FEMA provides in a living kit shall be removed and disposed of in accordance with applicable FEMA guidance.

Section of the SOP (Patient Rooms)	Applicable	Not Applicable	Change
5 Procedures – a Isolation Notice		X	
5 Procedures – c Patient's Bed	X		Remove all bedding as well as mattresses and box springs and replace mattresses and box springs with new mattresses and box springs.
5 Procedures – g Clean interior and exterior surfaces	X		Shall include all items in the kitchen and all appliances in addition to the items stated in the SOP.
5 Procedures – h Spot Clean walls	X		The words "Spot cleaning" shall be replaced with "Cleaning all".

Section of the SOP (Patient Rooms)	Applicable	Not Applicable	Change
5 Procedures – i Change cubicle curtain	X		Remove shower curtain.
5 Procedures – j Restock paper and soap products	X		Provide new FEMA living kit appropriate for the MHU.
5 Procedures – k Clean sinks, toilets and showers	X		"If applicable" is changed to "always".
5 Procedures – n. Prepare bed for the next patient	X		Place new mattresses and box springs on bed frames.
All other sections	X		

In addition to the SOP for cleaning a patient's room, which shall be used for cleaning an MHU, the VA has also provided FEMA with SOPs for specific areas and components within an MHU. The following SOPs are to be used as they are written:

- VMAC Mini-Blind Cleaning;
- VMAC Light Fixture Cleaning;
- VMAC Heat Convectors, Radiators and Vent Cleaning; and,
- VMAC Door Cleaning (except for wood polish as all MHU doors are either metal/fiberglass or painted wood.)

The SOP for Floor Care is another key cleaning procedure. FEMA MHUs are to be cleaned using the VMAC Floor Care SOP, with the following changes and exceptions which accounts for the differences between VA facilities and FEMA MHUs. Please note that for all Floor Care operations and processes furniture will be removed from the area that is undergoing Floor Care.

Section of the SOP	Applicable	Not Applicable	Change
Section 2 Dust Mopping	X		
Section 3 Wet Mopping	X		
Section 4 Baseboard Cleaning	X		
Section 5 Stripping Floors		X	
Section 6 Top Scrub in Lieu of Stripping		X	

Section of the SOP	Applicable	Not Applicable	Change
Section 7 Refinishing Floors		X	
Section 8 Burnishing		X	
All other sections	X		

FEMA typically does not procure MHUs with carpet. However, occasionally FEMA purchases MHUs using a method called "off the lot buys" where MHUs are purchased from existing dealer inventory in the local area of the disaster. Some of the MHUs purchased in this manner will have carpet installed. When a MHU has carpet installed, FEMA will use the VMAC Carpet Care SOP in its entirety.

All of the above documents will be used as written unless the contractor is granted approval in writing for a change from either the Contracting Officer or the Contracting Officer's Representative.

Payment for work completed under this section use CLIN # 0006AA.

C.6.7.1 Miscellaneous Expenses for Clean and Make Ready for Reuse

A miscellaneous CLIN for Clean and Make Ready for Reuse may be issued to the contractor if the work needed for Clean and Make Ready for Reuse cannot be completed within the SCOPE of an existing CLIN. Any items or services required to Clean and Make Ready for Reuse not covered in other parts of this PWS will require approval from the COR or the CO. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. The final negotiated price will become a fixed price item.

Payment for work completed under this section use CLIN # 0006AC.

C.6.8 Miscellaneous Deactivation

C.6.8.1 Miscellaneous Deactivation – General

During the deactivation of an MHU there may be issues that cannot be foreseen in advance but are required to complete the deactivation. This CLIN is only to be used if the work required does not fit within the definition of any other deactivation CLIN. The contractor shall develop a price proposal which includes all expenses related to the unforeseen work and present the estimate to the CO/COR for review. Once the CO/COR has agreed to a price for the work, the final price will become a fixed unit price.

Payment for work completed under this section use CLIN # 0006AI.

C.6.8.2 Miscellaneous Deactivation – Training

C.6.8.2.1 Miscellaneous Expense for RFSS/TPS Deactivation Training

This is work carried out by contractor staff who attend FEMA training for the deactivation of Residential Fire Sprinkler Systems (RFSS)/ Tank and Pump Systems (TPS). Training will be provided using just-in-time delivery at the disaster. Classes will be available based on a schedule provided by the COR. At FEMA's discretion, this training may include training for TPS installation and maintenance as well. The contractor can request from the COR additional training classes with appropriate justification. FEMA will provide a certificate for each contractor employee who attends training. Training certificates will include an expiration.

Other types of training relating to RFSS and/or TPS can be conducted.

Payment for work completed under Misc. Expense for RFSS/TPS Deactivation Training use CLIN #0006AZ.

Section C.7 Commercial Park Expansion Feasibility, Design and Construction

Commercial Park Expansion Feasibility, Design and Construction is the process by which FEMA, working with the owner of a manufactured home or recreational vehicle park, determines the feasibility of, designs and builds an addition to an existing facility. The purpose is to provide space in the commercial park for disaster survivors.

During the feasibility, design and construction process for commercial park expansion, the contractor shall include as part of the inclusion of space and the installation of the tank and pump system on each pad in proximity to the MHU so that the TPS can be connected to the MHU without any changes to TPS water connection or electrical connections provided with the TPS. Where multiple FEMA MHUs are to be installed on adjoining lots, consider using one TPS to supply multiple MHU sprinkler systems as described in the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). FEMA will provide the current guide; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.7.1 Commercial Park Expansion Feasibility

C.7.1.1 Tier One Site Assessment

Tier One Site Assessment is a windshield identification of available land for Commercial Park Expansion site development. A report shall be generated and submitted to the COR that includes but is not limited to: *Site Photo(s)*, *Site Name, Site Location*, and *County* where the site is located, *GPS Coordinates* at the street, *Site Characteristics* that include site vegetation cover,

Current and Past site use, *Wetlands* visual inspection, *Site Utilities* that include the availability and distance of water, sewer and power sources, identify *Local Zoning*, *Site Pros* that outline the positive features and advantages of using the site, *Site Cons* that point out the negative features that would pose a challenge to construction, *Site Size*, *Number of MHUs* that can be located on the site, and *Owner Contact Information*. Include a section as to the feasibility or infeasibility of using the site. This assessment is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #43.

Payment for work completed under this section is CLIN #0007AA.

C.7.1.1.1 Floodplain Evaluation

Use local floodplain information and Flood Insurance Study (FIS) maps to determine what floodplain designation covers the identified site. Under no circumstances shall a contractor install an MHU within a floodway or coastal high hazard area (otherwise known as "V" Zone). Generate a report and submit to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #44.

Payment for work completed under this section is CLIN #0007AC.

C.7.1.1.2 Wrap-Around Services Evaluation

Wrap-Around Services shall be an integral part of the planning and decision making process when considering commercial park expansion development and operation. The provision of any and all wrap-around services must be addressed at the onset of planning and design. Potential sites in close proximity to the impacted area shall be considered a priority to ensure accessibility to meet the essential needs of the disaster survivors. Once essential needs are addressed, planning for the provision of coordinated/routine needs and community support recovery services shall begin.

The contractor shall identify distances to the nearest infrastructure and essential services to address disaster-related needs of affected residents. Industrial sites and airport approach that would generate noise or other hazards shall be noted. Generate a report that addresses all applicable services for consideration (Attachment 34, Section J.34) and submit to the COR per the established timeline in Section F, Area #40.

Payment for work completed under this section is CLIN #0007AE.

C.7.1.2 Tier Two Site Assessment and Report

Verify land ownership, verify that the utilities observed during the Tier One Assessment are adequate in supporting the number of MHUs that can be located on the site or outline what shall be accomplished for the utilities to be adequate. Generate a report and submit to the COR per the established timeline in Section F, Area #45. Include any information on the Tier Two Report that was not identified but required by the Tier One Report.

Payment for work completed under this section is CLIN #0007AG.

C.7.1.2.1 Environmental Planning and Historic Preservation Support NEPA

1. FEMA frequently conducts environmental and historical preservation review through completion of an expedited Environmental Assessment (EA). This is a National Environmental Protection Act (NEPA) documentation process that examines a wide variety of potential impacts on environmental and historic resources and addresses the possible presence of hazardous materials and natural hazards. The NEPA process also requires public input into the site selection process.
2. FEMA may task the contractor with assisting with the documentation of the environmental clearance of the commercial park expansion sites. Generate a report and submit to the COR per the established timeline in Section F, Area #46. Once complete and reviewed, FEMA would approve and sign the environmental clearance, usually an EA. The contractor may be tasked with the following.
    a. Reviewing the site for compliance with a wide variety of environmental/historic preservation laws, policies, and executive orders such as the National Historic Preservation Act, Endangered Species Act, Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), and Executive Order 12898 (Environmental Justice).
    b. Coordinating with Federal, Tribal, State and local environmental and historic preservation officials and organizations to provide information on the selected site.
    c. Gathering information such as the site address and latitude/longitude in decimal degrees, drawings that show the boundary of the proposed site and how the site relates to its surroundings, topography, photographs of the entire site and any structures on the site (photos shall provide an understanding of the 360 degree view of the site), endangered species lists (if any), identifying any special resources such as wetlands, and past uses of the land.
    d. Compiling copies of other relevant information such as existing environmental assessments, remediation reports, permits, historic property designations or surveys, or archaeological surveys.
        i. Generate a report addressing the items needed for a comprehensive environmental assessment and not otherwise included in other CLINs. This will include research and investigations into endangered species and wetlands. The report is to include information such as the site address, latitude/longitude in decimal degrees, drawings that show the boundary of the proposed site and how the site relates to its surroundings, topography, photographs of the entire site, any structures on the site, and special resources on the site, such as woodlands. Generate a report and submit to the

COR per the established timeline in Section F, Area #49.

Payment for work completed under this section is CLIN # 0007AM.

C.7.1.2.2 Historical Preservation Survey

Conduct research on each site in accordance with preservation laws, policies, and executive orders such as the National Historic Preservation Act. Coordinate with Federal, Tribal, State, and local environmental and historic preservation officials and organizations to obtain information on the selected sites. Compile copies of historic property designations or surveys, or archaeological surveys. Generate a report and submit to the COR per the established timeline in Section F, Area #47.

Payment for work completed under this section is CLIN #0007AI.

C.7.1.2.3 Environmental Database Search

Conduct a database search on each site to identify past uses of the site, any existing remediation reports, and any information related to potential hazardous materials. Generate a report and submit to the COR per the established timeline in Section F, Area #48.

Payment for work completed under this section is CLIN # 0007AK.

C.7.2 Commercial Park Expansion Design

C.7.2.1 Site Specific Items

Specific items of work particular to each individual commercial park expansion site (such as bus shelters, storm shelters, laundry facilities) will be specified at the time of work order issuance. Site specific items are identified by FEMA using the "Definable Features Checklist", Attachment J.27. During each phase of design the contractor shall, unless directed in writing by the COR, provide the price for each of the site specific items.

C.7.2.2 Design Considerations

The contractor shall design the sites to effectively utilize the full capacity of each site, and account for disaster-specific requirements as defined by FEMA. The following items will be taken into consideration:

1. Each commercial park expansion site shall be designed as a stand-alone package.
2. Work shall be scheduled to meet the required deadlines. Phasing of construction may be requested if deemed necessary.
3. Work may be performed simultaneously at multiple commercial park expansion sites, FEMA group sites and private/commercial sites to meet schedule requirements.

4. Sites will generally be specified to include lots for manufactured homes that are, at a minimum, 40 feet wide by 85 feet (3,400 sq. ft.) (unless the park owner and FEMA have agreed to a different lot size). These lots will include parking spaces and shall incorporate UFAS requirements where applicable. Local fire code may dictate the distance between units.
5. In addition to a master meter for the overall site, the design shall be completed such that each manufactured housing unit may be individually metered for all utilities.
6. If a commercial park expansion site is to be constructed on a plot of land that has an existing approved subdivision plan, use the existing designated utility corridors and align the design accordingly.
7. Supporting calculations for the power, sewer, water, drainage, and lighting shall be submitted.
8. Site lighting shall include dusk to dawn lighting and provide one-foot candle lighting along public areas and roadways.
9. The site shall be graded to be free draining for a 10-year storm event or to meet local requirements. The drainage plan shall include storm water retention or detention ponds if required by AHJ.
10. The contractor shall work with local authorities and property owners to provide an area for the storage and staging of equipment and materials.
11. Local requirements are to be taken into consideration for zoning, buffer areas, tree preservation areas, and other conservation areas.
12. Each site shall contain concrete pads for solid waste collection.
13. Ensure that the number and location of fire hydrants are appropriate and conform to the local, State, and the National Fire Protection Association (NFPA) code. The most stringent code shall govern. In addition to DOT criteria, the road layout shall meet the standards of the local fire officials.
14. Incorporate adjacent roadways into the design in order to reduce the amount of perimeter roads in the original design. All ingress and egress roads shall have a grade sufficient to allow trailer access. Consideration shall be given to setbacks required by local authorities.
15. A traffic control plan shall be included at each level of design to address both interior traffic and driveway entry onto public roads. Multiple ingress and egress routes to the site may be provided.
16. Coordinate unit addresses with the applicable 911 authorities and USPS Postmaster.

a. The contractor shall coordinate with local emergency responders to develop roads that will satisfy the requirements for emergency vehicle access. The roads shall allow ample room between parked cars for fire and EMS equipment to pass as defined by local codes.

b. Work with local emergency services to identify emergency response (911) unit addresses and satisfy emergency responder's need for street signs (sign locations and number).

c. Provide and install a number of mail boxes and kiosk(s) at each commercial park expansion site that will sufficiently serve the entire site. Mail box areas shall be fully UFAS compliant to include access.

d. Incorporate a central mail box near the site entrance that does not impede traffic in and out of the site.

17. Design and plan additional site features, such as storm shelters, guard shacks, laundry facilities, community centers, green space/pet areas, parking blocks, bike lanes and sidewalks, bike racks, storage sheds, and bus stops which may be required based on disaster specific needs, and will be specified by FEMA when applicable.

18. Two clearly identified off-street parking spaces shall be provided for each lot. Each space shall be at least eight (8') feet wide by twenty (20') feet long.

19. At least one van-accessible parking space shall be provided at each bus stop, public area, and mail box area. The van-accessible parking spaces and space access aisles shall be at least nine (9') feet wide to allow all types of wheelchairs or scooters to exit or enter a van using a side-mounted lift and be designated by signs.

20. All Pads designated for an MHU shall have adequate space for the Tank and Pump component of the Residential Fire Sprinkler System.

C.7.2.3 Requirements Meeting

1. The contractor shall meet with the Government to review and define commercial park expansion site requirements at the time that the Government exercises the option to design and build a commercial park expansion site.

2. The contractor shall assist the Government in defining stakeholders, such as State and local governments, existing park owner, and utility providers who may have an interest in the outcome of the commercial park expansion site design.

3. This meeting shall provide the basis for the conceptual design package that the contractor submits to the Government, and can be utilized to facilitate necessary site approvals.

C.7.2.4 Conceptual Design Package

At the direction of the COR and having been provided a definable features check sheet (See Section J, Attachment J.27) from the COR, the design process will commence. All designs shall be in accordance with FAR Part 36. This CLIN covers all design activities as outlined under the contract section "Commercial Park Expansion Group Site Design" not to exceed 25 percent design. This is defined as a rough layout with utilities, transportation rights of way, preliminary unit locations, as well as an estimate of site preparation (quantity take-off) and an order of magnitude estimate to allow the FEMA team to compare prices for different sites.

1. The contractor shall provide to the COR three copies and a pdf version of a completed conceptual design package within two (2) operational days after site approval (See Section F, Area #50).
2. The Conceptual Design Package shall consist of a conceptual layout overlaid on an aerial photo. The layout will include lot locations, road locations, utility corridors, laundry facilities and other amenities (as requested by FEMA), and a preliminary price estimate.
3. Other deliverables include the preliminary quantity take-off and an order of magnitude price estimate.

Payment for work completed under this section is CLIN # 0007AO.

C.7.2.4.1 Conceptual Design Package – Redesign

During the conceptual design process FEMA may request that the contractor redesign the commercial site expansion to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the conceptual design.

Payment for work completed under this section is CLIN # 0007AQ.

C.7.2.5 50 Percent Design Package

At the direction of the COR and having been provided a definable features check sheet (See Section J, Attachment J.27) from the COR, the design process will commence. This CLIN covers all design activities as outlined under the contract section "Commercial Park Expansion Group Site Design" from concept to 50 percent design package. The 50 percent design shall include an update of all documents submitted for the conceptual design. This CLIN includes: site surveys for purposes of identifying the topography and boundaries for preparing the design. The survey shall be submitted as a separate document as part of the 50 percent design package. This CLIN also includes other deliverables such as the preliminary project schedule.

1. The contractor shall submit three copies and a pdf version of the 50 percent design package to the COR within four (4) operational days of FEMA's approval of the conceptual package for site development (See Section F, Area #51). On a case by case basis, the contractor may submit a request to the COR in writing for a change to the required timeframe for the 50 percent design package.
2. The contractor shall work with FEMA to coordinate preliminary design approval with State and local officials.
3. The contractor shall provide to the COR the following in the 50 percent design package for each site:

   a. Construction Timeline and Milestones

      i. Site development timeline

      ii. Critical path

      iii. Projected baselines and daily percentages of work to be completed

   b. Drawings**.** The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to:

      i. Water and power infrastructure, sewer facilities, and fire hydrants

      ii. Drainage control plan

      iii. Curbs, gutters, and sidewalks as required

      iv. Traffic signs, pavement striping, street lighting, and fencing.

      v. Erosion and sediment control plan including retention ponds, water bodies, natural features and amenities, 100 year flood contours, and easements.

      vi. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

   c. Other Submittals

      i. Other Milestones and Timelines

      ii. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

      iii. Status of anticipated permits required, or copies of letters exempting this project from permit requirements.

      iv. Preliminary price estimate is a square foot and cubic foot estimate. Specifically identify prices of add-on features for evaluation purposes. Make price saving recommendations as appropriate.

Payment for work completed under this section is CLIN # 0007AS.

C.7.2.5.1 50 Percent Design Package – Redesign

During the design process FEMA may request that the contractor redesign the commercial site expansion to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 50% design.

Payment for work completed under this section is CLIN # 0007AU.

C.7.2.6 100 Percent Final Design Package

This CLIN will be used if the decision is made to proceed with a 100 percent design. This CLIN covers all design activities as outlined under the contract section "Commercial Park Expansion Group Site Design" for 100 percent design package. The 100 percent design package shall include an update of all documents submitted for the 50 percent design package. This CLIN also includes project schedule deliverables and other submittals.

1. The contractor shall submit three copies and a pdf version of the 100 percent design package to the COR within two (2) operational days of the approval of the 50 percent design package (See Section F, Area #52). On a case by case basis, the contractor may submit a request to the COR in writing for a change to the required timeframe for the 100 percent design package. This design package consists of the final coordinated design and support plans and information. This will include all Federal, State, and local approvals.
2. The COR, and other representatives determined by FEMA, as well as State and local officials shall review the design package with the contractor. The contractor shall take note of any comments and recommendations, incorporate them into the design, and proceed with the final coordinated (100%) design. The contractor's final drawings shall be sealed by a professional engineer who is licensed to practice in the State where the commercial park expansion group site will be constructed. Three full-size copies, three half-size copies, a pdf, and vector version of the design shall be submitted. Electronic copies of the pdf and vector versions shall be delivered to both the CO and the COR. The Vector version is defined as Microstation as well as AutoCAD.
3. The phasing strategy and schedule shall be submitted with the 100 percent design for Government review.
4. The contractor shall not proceed with the construction until the CO provides a Notice to Proceed (NTP).
5. The contractor shall provide to the COR the following in the 100 percent design package for each site:

a. Construction Timeline and Milestones. Project schedule timeline, with tentative start date (tentative until NTP issued).

b. Risk Management Plan. The contractor, in addition to providing a project schedule with critical path identified, shall analyze their future activities and note key milestones, processes, or events that threaten the schedule. Milestones such as ordering of product, deliveries, preparation of project area for subcontractor mobilization, expected weather events, and utility notification and connection are examples of critical milestones that may not be on the critical path, but could impact the progress or perceptions of progress. These factors shall be listed in matrix or narrative documents, in the format of Activity – Challenge – Discussion – Resolution/Action as the project Risk Mitigation Plan. Include a section in the plan for consideration of risks to personnel and property due to safety considerations. In the event that the project schedule shows a delay to the work in progress, the contractor shall provide the COR, within 24 hours of the request, a plan that shows how the schedule will be recovered.

c. Quantities for Construction. Based on the definable features table in Section J: Attachment J.27, the recommended items for quantity take off are shown, but not limited to, those listed in the table.

d. Price Estimate.

e. Drawings. The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to: water and power infrastructure, sewer facilities, and fire hydrants.

f. Drainage control plan.

g. Curbs, gutters, and sidewalks as required.

h. Traffic signs, pavement striping, street lighting, and fencing.

i. Erosion and sediment control plan including retention ponds, water bodies, natural features and amenities, 100 year flood contours and easements.

j. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

k. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

l. All permits and status of permits required, or copies of letters exempting this project from permit requirements.

Payment for work completed under this section is CLIN # 0007AW.

C 7.2.6.1 100 Percent Design Package – Redesign

During the design process FEMA may request that the contractor redesign the commercial site expansion to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 100% design.

Payment for work completed under this section is CLIN # 0007AY.

C.7.2.6.2 Construction Proposal Price Breakdown

The contractor shall furnish a price breakdown, including itemization in sufficient detail to permit an analysis of all expenses such as:

1. Material
2. Labor
3. Equipment
4. Subcontracts
5. Overhead
6. Profit
7. General and Administrative

The price breakdown shall be included with both the 50 Percent and 100 Percent Design Packages as specified in Section F, Areas #51 and #52.

C.7.2.6.3 Construction Timeframes

1. Timeframe for Mobilization. Upon issuance of the NTP, the contractor shall mobilize within forty-eight (48) hours and begin construction/installation work.
2. Timeframe for Commercial Park Expansion Site Completion. The commercial park expansion site(s) shall be completed within the awarded timeframe.

C.7.3 Commercial Park Expansion Construction

These CLINs include all work required to complete a fully developed and functional commercial park expansion site in accordance with the references and requirements described in this contract. (These CLINs are bid after site design is complete and will be negotiated between FEMA and the contractor.

The following areas of the PWs describe the requirements for Commercial Park Expansion Construction.

Section	Title	CLIN #
C.7.3.1	Coordination of Site and Utility Work	*0007BA*
C.7.3.2	Work Limits	*0007BA*
C.7.3.3	Surveying	*0007BA*
C.7.3.4	As-Built Field Surveys	*0007BA*
C.7.3.5	Temporary Construction Facilities for FEMA Personnel	*0007BG*
C.7.3.6	Debris Cleanup	*0007BA*
C.7.3.7	Site Grading	*0007BA*
C.7.3.8	Site Utility Infrastructure	*0007BA*
C.7.3.9	Water Distribution System	*0007BA*
C.7.3.10	Sanitary Sewers	*0007BA*
C.7.3.11	Electrical Service	*0007BE*
C.7.3.12	Roads, Surfaces and Pads	*0007BA*
C.7.3.13	Commercial Park Expansion Site Fencing	*0007BA*
C.7.3.14	Other Site Facilities	*0007BA*
C.7.3.15	Additional Site Work	*0007BC*
C.7.3.16	Commercial Park Expansion Construction-Related Bonds	*0007BM*

C.7.3.1 Coordination of Site and Utility Work

1. All efforts shall be effectively coordinated with all Government entities, as required by Federal, State and local laws and regulations.
2. The contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and re-establish service if applicable.
3. Utility services shall not be interrupted except for brief periods if necessary to facilitate cut-ins.
4. The contractor shall be responsible for all expenses related to protecting existing utilities. Coordinate utility installations with the local communication companies to include, but not be limited to, the local phone and cable companies, and not to impede completion deadlines.

C.7.3.2 Work Limits

The construction work limits (CWL) as delineated in the drawings shall define the boundaries of the finished commercial park expansion site and shall be the area in which the contractor will have full operational control. Any limited work limits (LWL) delineated in the drawings are meant to depict areas outside the finished commercial park expansion site which provide the contractor temporary access or other usages such as storage of materials. The LWL shall be

returned to original conditions upon completion of the commercial park expansion site construction, and such property will return to original usage.

C.7.3.3 Surveying

The contractor shall layout the work from established benchmarks. For each feature of work, field staking shall define area limits such that the COR can easily determine if alignment and/or limit adjustments need to be made.

C.7.3.4 As-Built Field Surveys

1. An as-built field survey of all utilities shall be conducted after installation to determine the final locations and elevations of utility manholes and hydrants. Final elevations shall be determined for all sewer inverts and castings.

2. Three (3) sets of as-built drawings shall be provided to the COR. A vector version shall also be provided to both the CO and COR. All surveys shall be completed per the timeline established in Section F, Area #53.

C.7.3.5 Temporary Construction Facilities for FEMA Personnel

At the discretion of the COR, the contractor may be required to furnish and install an office trailer complete with all utilities and restroom facility. Restroom facilities shall be appropriate for the construction site and be identical to those used by the contractor's construction management personnel.

C.7.3.6 Debris Cleanup

Construction debris, event debris, pre-existing site features, waste materials, packaging material, and the like shall be removed from the work site. The contractor shall sweep adjacent roadways to control dust and water if deemed necessary by the COR or as required by the condition of any assigned permits.

C.7.3.7 Site Grading

1. During construction, the lines and grades, including crown and cross slope indicated for the base course, shall be maintained by means of line and grade stakes placed by the contractor.
2. Adequate drainage (1% slope or greater) and erosion sediment control shall be provided during the entire period of construction to prevent water from collecting or standing on the area to be constructed. Roadways and individual pads shall be crowned.

3. The surface of the top layer shall be finished to grade and cross section shown. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections.
4. Should the surface for any reason become rough, corrugated, or traffic marked prior to completion, such portions shall be re-graded.
5. Site grades shall be checked for low spots and depressions. All low spots and depressions shall be filled so the entire site has positive drainage.
6. All material placed as fill or backfill shall consist of mineral soils with no vegetative matter. Aggregate shall not be larger than three inches (3") in size. Unsuitable material shall be disposed of offsite.
7. The parking surfaces shall be sufficiently stable to prevent rutting by passenger vehicles, and any necessary compaction efforts shall be submitted to the COR for acceptance.
8. Soil compaction testing is not required to provide an engineered solution for stabilization of the roads, trenches, and pads. Instead, liberal use of appropriate geotextile products such as Tensar or equivalent shall be specified. Compaction equipment shall consist of steel-wheeled vibratory rollers, minimum 10 ton, or other approved equipment well suited to the soil type being compacted. Water flooding or jetting methods of compaction will not be permitted for any soil types.
9. Any excavation sub-grades that reveal soil conditions that are substantially different from the general site conditions (unstable, pump, rut excessively), or are unsuitable for proceeding with the work, shall immediately be reported to the COR.
10. Soft or otherwise unsatisfactory material shall generally be removed and replaced with satisfactory excavated material or other approved material as directed. Excess material shall be stockpiled on site at a location directed by the COR.
11. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6") and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Compaction will be completed once the COR designates that a satisfactory level of compaction has been reached. Generally, levels of compaction for under roadways shall be 100 percent for utility trenches and MHU pads and 80 percent for the rest of the site.
12. The complete site will be compacted using a minimum of a 10 ton roller with three passes.

13. All areas upon which aggregate is to be placed, including road sub-grades, shall be stripped six inches (6”) before the aggregate placement is started. Material shall not be placed on surfaces that are muddy, or where unsatisfactory material remains in or under the aggregate. The entire area that is stripped shall be rolled prior to the placement of the aggregate. Final grading of the site, including the roadways and roadway accessories (culvert pipes, etc.) will be such as to prevent the ponding of surface water.
14. For trenches in road sub-grades, common backfill above the bedding shall be placed in six inch (6") lifts and compacted with special purpose compaction equipment. Compaction equipment shall be selected to avoid damage to the pipe.

C.7.3.8 Site Utility Infrastructure

1. Materials and installation associated with site utility infrastructure shall be in compliance with all Federal, State and local requirements.
2. The contractor shall provide all water and electric meter numbers for each address to FEMA within twenty-four (24) hours of installation.
3. Utility stub-ups shall be within the footprint of the MHU within the skirting unless otherwise noted.
4. Pipe Bedding and Backfill.
   a. Reference to pipes shall include conduits, cables, or other utility systems. Appurtenant structures include manholes, catch basins, inlets, outlets, energy dissipaters, or similar structures.
   b. Bedding material shall consist of imported sand fill or gravel. Pipe bedding shall contain no more than 20 percent by weight passing the No. 200 sieve. The maximum allowable aggregate size shall be one and one-half inches (1 ½”) for gravity flow sewer and three-quarter inches (¾”) for pressure pipe. If the bottom of the trench is soil, 4 inches of bedding will be required. If the bottom of the trench is rock, six (6”) inches of bedding will be required.
   c. Unless otherwise indicated, trench excavation shall be by open cut except that short sections may be bored and jacked if the utility can be safely and properly installed and ground loss can be properly controlled. All excavation shall be constructed in accordance with the Safety and Health Requirements Manual (EM 385-1-1) and/or OSHA Standards (29 CFR 1926). Allowable trench widths, depths, side slopes, sheet and bracing requirements, and other considerations are given in the OSHA Standard; and an abbreviated version is given in the Safety and Health Requirements Manual.

d. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in a neat and orderly manner at a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or caving. Topsoil shall be stockpiled separately from suitable backfill material. Grading shall be done as needed to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation.

e. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Pipe shall rest on bedding material along its entire length.

C.7.3.9 Water Distribution System

1. **Commercial Park Expansion Site Water Supply.** A connection to the municipal water supply shall be required. If none available, wells may need to be drilled. The contractor shall provide alternatives, prices and recommendations for the most price-effective options. The contractor shall coordinate the proper fittings, procedures and meters needed with the local water company.

2. **Products.** Pipes, fittings, valves, fire hydrants and components of potable water systems which come in contact with the potable water shall conform to NSF 71. Plastic piping system components intended for transportation of potable water shall comply with NSF 14 and be legibly marked with their symbol.

3. **Service Lines.** The piping for each unit's water service line shall have a nominal size of three-quarter inch (¾") diameter. Pipe shall be galvanized steel, polyvinyl chloride (PVC) plastic, plastic polyethylene. Water pipe riser shall be a minimum of three-quarter inch (¾") and compatible with the service line. All pipe connections shall be suitable for the type of service pipe used.

4. **Supply and Distribution Lines:** Piping for water distribution lines shall be designed based on usage demand and sound engineering practices. Pipe shall be ductile iron, PVC, plastic filament-wound or centrifugally cast reinforced thermosetting resin.

   a. **Cathodic Protection:** Cathodic protection shall be provided for all materials subject to corrosion, and shall comply with the provisions of the National Association of Corrosion Engineers (NACE) criteria and standards. All ferrous underground materials shall receive a protective coating with a coating efficiency of 90 percent after fifteen (15) years.

   b. **PVC Plastic Pipe:** Pipe, couplings and fittings shall be manufactured, tested and delivered in accordance with AWWA C900. Pipe shall be Pressure Class 150 (SDR 18).

5. **Valves:** All valves, gate valves, and valve boxes shall be of a specification compatible with the public utilities in the area. Valve pits shall be constructed at locations indicated or as required. Water supply shut-off valves shall be easily accessible to the occupant, such as through a cut-out in the skirting, or a sill-cock that extends through the skirting.

6. **Service Stops:** All service lines shall include a one inch (1") curb stop (shutoff) valve. Service stops shall be water-works inverted-ground-key type, oval or round flow way, tee handle, without drain. All parts shall be of bronze with female iron-pipe-size connections or compression-pattern flared tube couplings, and shall be designed for a hydrostatic test pressure not less than 200 psi. All service stops and valves shall be provided with service boxes.

7. **Fire Hydrants:** Hydrants shall be dry-barrel type conforming to AWWA C502. Outlets shall have American National Standard fire-hose coupling threads. Working parts shall be bronze. Design, material, and workmanship shall be equal to the latest stock pattern ordinarily produced by the manufacturer. Fire hydrants shall be located and installed as designed. Each hydrant shall be connected to the main with a seven inch (7") branch line having at least as much cover as the distribution main. Hydrants shall be set plumb with the pumper nozzle facing the roadway, with the center of the lowest outlet not less than eighteen inches (18") above the finished surrounding grade. Not less than seven (7) cubic feet of free-draining broken stone or gravel shall be placed around and beneath the waste opening of dry barrel hydrants to ensure drainage. At concept, the contractor shall coordinate number and location of fire hydrants with the local fire marshal.

8. **Disinfection:**

   Disinfection shall be in accordance with the authority having jurisdiction. If an authority having jurisdiction is silent then the contractor shall follow the steps listed below.

   a. Chlorinating materials shall conform to the following: Liquid chlorine, AWWA B301 and Hypochlorite, Calcium and Sodium: AWWA B300.

   b. Before acceptance of potable water operation, each unit of completed waterline shall be disinfected as prescribed by AWWA C751. After pressure tests have been performed, the unit to be disinfected shall be thoroughly flushed with water. All entrained dirt and mud shall be removed before introducing the chlorinating material. The chlorinating material shall be liquid chlorine, calcium hypochlorite, or sodium hypochlorite, and shall provide a dosage of not less than fifty (50) ppm.

c. Valves on the lines being disinfected shall be opened and closed several times during the contact period, and the line shall then be flushed with clean water until the residual chlorine is reduced to less than one (1.0) ppm. During the flushing period, each fire hydrant on the line shall be opened and closed several times. From several points in the unit, the contractor shall take samples of water in proper sterilized containers. These samples shall be taken to a state-certified laboratory for bacterial examination. The disinfection shall be repeated until tests indicate the absence of pollution for at least two (2) full days. The unit shall not be accepted until satisfactory bacteriological results have been obtained.

9. **Meters:** Water meters, valve boxes and appurtenances may be installed at individual trailers in accordance with all local codes and shall meet the standards of the local municipality and shall be individually metered. If the local authority is unable to supply separate meters for all required installations, the contractor shall procure the remaining amount to ensure that a separate water meter is in place for each housing unit.

10. **Winterization:** When required, individual unit water lines shall be insulated with electric heat tape or other approved winterization treatment. Winterized lines shall extend a minimum fourteen inches (14”) below the surface of the ground under the MHU or per manufacturer instructions if greater.

11. **Placing and Laying:** PVC pipe shall be installed and backfilled in accordance with *ASTM D 2774 - Recommended Practice for Underground Installation of Thermoplastic Pressure Piping*, and any additional State and local codes. Water-line materials shall not be dropped or dumped into the trench. The full length of each section of pipe shall rest solidly upon the pipe bedding, and pipes shall not be laid in water or when trench conditions are unsuitable for the work. Water shall be kept out of the trench until joints are complete. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no trench water, earth, or other substance will enter the pipes or fittings. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored. All lines are to be placed six inches (6”) below local frost lines.

12. **Utility Separation:** The water lines shall be spaced from sewer lines in compliance with all State requirements. The minimum horizontal separation between water and sewer lines shall be ten feet (10’). In the case of water and sewer lines crossing, the vertical separation shall be eighteen inches (18”) or more, and one (1) full length of water pipe shall be located so both joints will be above and as far from the sanitary sewer line as possible. Special structural support for the water and sanitary sewer pipes may be required. If the tolerances cannot be met, the pipes shall be sleeved or encased

in concrete at the direction of the COR. Water lines shall not be laid in the same trench with sewer lines, fuel lines, or electric wiring.

13. **Thrust Restraint:** Plugs, caps, tees, and bends deflecting thirty (30) degrees or more, either vertically or horizontally, on waterlines four inches (4") in diameter or larger, and fire hydrants, shall be provided with thrust restraints.
14. **Hydrostatic Test:** The water line shall be tested by the contractor after the pipe is laid, the joints completed, and the trench partially backfilled. The hydrostatic test shall meet the requirements of the local public services jurisdiction. Be sure to check with local Public Service District for guidance on preferred manhole design.
15. **References**: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

a. AMERICAN WATER WORKS ASSOCIATION (AWWA)

i. AWWA B300 (1992) Hypochlorite

ii. AWWA B301 (1992) Liquid Chlorine

iii. AWWA C500 (1993; C500a) Metal-Sealed Gate Valves for Water Supply Service

iv. AWWA C502 (1994; C502a) Dry-Barrel Fire Hydrants

v. AWWA C651 (1992) Disinfecting Water Mains

vi. AWWA C900 (1997) PVC Pressure Pipe and Fabricated Fittings, four inches (4") through twelve inches (12"), For Water Distribution

b. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

i. NFPA 24 (1995) Installation of Private Fire Service Mains and Their Appurtenances

ii. NSF INTERNATIONAL (NSF)

iii. NSF 14 (1998) Plastics Piping Components and Related Materials

iv. NSF 61 (1999) Drinking Water System Components - Health Effects (Sections 1-9)

C.7.3.10 Sanitary Sewers

1. **Pipe Sizes:** Laterals shall be no smaller than four (4") inches in size. Trunk lines shall be designed based on usage demand and sound engineering practices. Acrylonitrile-butadiene-styrene (ABS) and PVC composite sewer pipe and fittings shall conform to

ASTM D 2780. Fittings shall be compatible with the pipe supplied and shall have a strength not less than that of the pipe.

a. **ABS Pipe and fittings:** shall comply with ASTM D 2751.

b. **PVC Pipe and fittings:** PVC pipe and fittings shall comply with ASTM D 3034, Type PSM with a maximum SDR of 35. PVC shall be certified as meeting the requirements of ASTM D 1784, cell Class 12454B. PVC pipe shall be installed and backfilled in accordance with ASTM D 2321

c. **Flexible plastic pipe**: Joints shall conform to ASTM D 3212.

2. **Manholes**: Prefabricated of pre-cast concrete sections conforming to ASTM C 478. Joints shall be cement mortar, approved mastic, rubber gaskets, a combination of these types; or the use of external preformed rubber joint seals and extruded rolls of rubber with mastic adhesive on one side. A ladder shall be provided where the depth of a manhole exceeds four feet (4'). The ladder shall be constructed in accordance with OSHA Standard. Frames and covers shall be cast iron, ductile iron or reinforced concrete. Cast iron frames and covers shall be as indicated or shall be of a type suitable for the application, circular, and without vent holes. The frames and covers shall have a combined weight of no less than four hundred (400) pounds and be seal-tight lids. Reinforced concrete frames and covers shall be as indicated or shall conform to ASTM C 478.

3. **Sewer Pipe Laying:**

a. Bedding material shall consist of imported sand fill or gravel. Pipe bedding shall contain no more than twenty percent (20%) by weight passing the No. 200 sieve. The maximum allowable aggregate size shall be one and one-half inches (1 ½") for gravity flow sewer and three-quarter inches (¾") for pressure pipe.

b. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe, which shall rest on bedding material along its entire length. For trenches in road sub-grades, common backfill above the bedding shall be placed in twelve inch (12") lifts and compacted with special purpose compaction equipment, selected to avoid damage to the pipes.

c. After other required tests have been performed and the trench backfill compacted to two feet (2') above the top of the pipe, the pipe shall be inspected, with the COR and local inspectors present, to determine whether significant displacement has occurred. If, in the judgment of the inspector or the COR, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, the defects shall be remedied as directed at no additional expense to the Government.

d. **Trenching:** Unless otherwise indicated, trench excavation shall be by open cut. Short sections may be bored and jacked if the utility can be safely and properly installed and ground loss can be properly controlled. All excavation shall be constructed in accordance with OSHA Standards (29 CFR 1927).

4. **Sewer Riser:** The sewer riser shall be vertical and terminate no more than four inches (4") above ground level with a standing wye at the staked location. The cleanout inlet will be plugged with a threaded cap. The vertical inlet shall be plugged or capped until such time as it is connected to the MHU.

5. **Deflection Test:**

a. Deflection tests shall be performed on the entire length of the installed pipeline after completion of all work. These shall include the leakage test, placement of any fill or backfill, grading, paving, concrete, or superimposed loads.

b. Deflection shall be determined by use of a deflection device or by use of a spherical ball. A tolerance of plus 0.5 percent will be permitted unless local standards are more stringent. Installed pipe showing deflections greater than 7.5 percent of the normal diameter of the pipe shall be retested by a run from the opposite direction. If the retest also fails, the suspect pipe shall be replaced at no expense to the Government.

C.7.3.11 Electrical Service

1. General:

a. The contractor shall provide all equipment, labor and supplies necessary to install all metering/disconnect pedestals, electrical cabling, conduit and other ancillary equipment for each MHU lot as shown on contract plans. This shall include the delivery and installation of all systems necessary to meet this requirement including any and all procurements of permits and inspections by the local AHJ. The contractor shall also work closely with the electrical utility company for infrastructure installation coordination. Primary and secondary electrical distribution to each electrical service meter shall be completed by the local electrical utility company in a separate contract.

b. The service entrance conductors from the meter to the 200A disconnect and from the 200A disconnect to the stub-up location at each MHU lot shall be single conductor cables, "triple rated" (wet/dry, flame retardant, direct burial). The service entrance conductors shall also be aluminum, XLP, USE-2, 600V rated. The minimum service entrance conductor sizes shall be three #4/0 and one #4 gnd. Ten feet of power cable shall be coiled up above the stub-ups. The conductors shall be marked with a uniform color code with colored polyvinyl "electrical" tape in the following manner:

Hot 1: Red
Hot 2: Black
Neutral: White
Ground: Green

The service entrance conductors from the meter to the stub-up location shall be installed underground in minimum 2" schedule 40 PVC conduit. All PVC conduit joints shall be glued and secured with an approved standard product. The minimum burial depth shall be 36" or as approved by the local AHJ. The maximum distance allowable from the disconnect to the MHU is 30'-0".

c. Two ground rods and grounding wiring shall be provided and installed at each lot. One shall be placed at the metering location and one near the stub-up location. The grounding rods, #4 bare copper wire and connections shall meet or exceed the local electric service utility and AHJ's requirements. The grounding rods shall be minimum 5/8", 10'-0" long, copper clad. The stub-up location shall include 5'-0" of #4 bare copper grounding wire with approved clamps to attach to the grounding rod and to the chassis of the temporary housing unit.

d. At locations where dissimilar metals are bonded (i.e. copper to aluminum) use a dielectric grease compound.

e. See contract drawings for additional details, equipment and requirements.

f. Due to the nature of this work with an accelerated schedule, alternate products may be used if the required equipment is not readily available, only if approved by the Contracting Officer.

g. All exposed PVC conduit installed on poles shall be securely fastened with two-hole straps, a minimum of two per five-foot length or fraction thereof.

2. Electrical Utility Coordination:

a. The contractor shall coordinate the electrical service installation process with the serving electric utility company. Before the system is energized, the contractor shall ensure all necessary lockouts are in place, appropriate circuit breakers are off, and electric water heaters are full.

b. The contractor shall install an electric meter base for each MHU, provided by the local utility company. If the meter bases are not provided, the contractor shall provide meter bases approved by the local electric utility company/cooperative and install them.

c. Coordinate electric power distribution with electrical codes and configure for metering at each individual pad on the sites. The sites shall also be configured so common areas, including lighting and shelters, shall be metered separately from the individual pads.

d. Rebates offered by utility companies for usage offsetting installation fees shall be accounted for by the contractor and returned to the Government as a credit against the contract.

3. At FEMA's direction, the contractor shall set up a utility account for site development until FEMA obtains the account after completion of site development. This includes a thirty (30) day transition after site completion. The price for the utility account will be reimbursed by the Government if receipts documenting the expense are provided to the COR.

4. Codes for Distribution: The manufactured home park electrical power distribution system shall be installed in accordance with all applicable requirements of the latest edition of the National Electrical Code (NFPA 70), including article 550 Part C, the National Electrical Safety Code and the requirements of the local AHJ.

   a. All material shall be new and shall carry the UL label.

   b. MHU service equipment shall be installed in accordance with NFPA 70 article 550-23.

   c. There shall be no splices in the wiring between the load side of the MHU service disconnects and the line side lugs on the trailer load center.

   d. All services shall be grounded according to NFPA 70, article 250. A ground shall be carried to each trailer panel.

   e. Conduit shall be securely attached to the electrical boxes in accordance with NFPA 70. Sweeps shall be used at the Manufactured Home/Park Model junction box and meter loop assembly.

5. Electrical Security Lighting: The contractor shall provide and coordinate installation of security lighting with the local utility company or provide by some other means as approved by the COR or the CO. The lighting shall provide light distribution along roadways, near bus shelters, mailboxes, playgrounds or as applicable. The average illuminance value of these locations shall be no less than 1.0 foot candle. If the lighting is connected to the local power grid, the contractor shall have an electrical engineer design the requirement and coordinate with the local power utility.

C.7.3.12 Roads, Surfaces and Unit Pads

1. Hard Surfaces: Construct appropriate hard surfaces in all common areas to include but not be limited to dumpster/recycling pads, bus stop, mail kiosk, etc.
2. Speed Bumps: At the direction of FEMA, speed bump(s) may be required to be installed in accordance with local/State regulation and industry practices.
3. Road Materials: The aggregates for the surface and base course shall meet State or local standards but generally shall have no more than 20 percent fines and no more than 80 percent passing the one and three-quarter inch (1 ¾") sieve. A stabilization fabric or geo-textile fabric shall underlay the aggregate.
4. Paving (If Required)
    a. Roads, parking pads, and aprons for mailboxes shall be surfaced with asphalt pavement. Asphalt section thicknesses shall be two inch (2") base and one and one-half inch (1 ½) surface course. Mix design shall be formulated in accordance with State Department of Transportation (DOT)/Department of Highways (DOH) for municipal streets. Installation procedures shall follow State DOT/DOH guidelines.
    b. Pads and aprons for garbage and recycling dumpsters shall be concrete, six inches (6") thick, with ultimate strength of 3000 PSI, with welded wire fabric. Aprons shall be large enough that the routine traversing of the trucks picking up trash shall bear mainly on the concrete rather than the asphalt (e.g., 20 feet out from the dumpster pad).
    c. Concrete: All concrete shall have a minimum 28-day compressive strength of three thousand (3000) psi. Concrete shall be batched, delivered and placed in accordance with ACI 318 standards.
5. Compaction: All plant, equipment, and tools used in the performance of work shall be subject to approval and shall be maintained in satisfactory working condition at all times. The equipment used for compaction shall meet the requirements of the referenced State standard specification sections. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6") and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Embankments and subgrades shall be kept crowned or sloped for drainage. All work shall implement best management practices for erosion control.
6. Preparation: All topsoil and surface material shall be removed and the sub-grade compacted prior to the placement of the filter or geo-textile fabric and aggregate base. There shall be no evidence of depressions from site equipment or excess rutting.

7. Finishing: The surface of the top layer shall be finished to grade, and the finished surface shall be of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be graded.
8. Testing: Coarse Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136. Fine Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136.
9. Fabric Placement: Placement shall be in accordance with manufacturer's recommendation.
10. Seeding Species and Rates: Seeding species and rates shall be specified that are compatible with local climate and soil conditions. Due consideration shall be given to longevity of plants, resistance to traffic and erosion, and attraction of birds or large animals. The contractor shall furnish the COR with duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within seven (7) months of date of delivery. Labels shall be in conformance with AMS-01 and applicable State seed laws. Local offices of the USDA Soil Conservation Service and the State University Agricultural Extension Service (County Agent or equivalent) shall be consulted for assistance with seeding, liming and fertilizer recommendations.
11. Hydroseeding: Hydroseeding is required unless directed otherwise. The hydroseeding operation shall apply the seed, mulch, and fertilizer simultaneously. Fertilizer shall be applied at a rate proposed by the contractor and agreed to by the COR. The mulch shall be applied at a rate of about one (1) ton per acre. During application, the spray shall be directed to obtain a uniform material distribution as evidenced by a formation of a "blotter-like" cover, with about 5 percent void area. The mulch shall permit percolation of water to the underlying soil. The seed mixed with water and fertilizer shall be applied within one (1) hour after adding to the tank.
12. Topsoil: Topsoil shall be defined as any soil that is capable of supporting vegetative growth, and can be distinguished from the underlying soil by color, texture, moisture retention capacity, or odor. Stripped topsoil shall be kept separate from other unusable excavated materials, brush, litter, objectionable weeds, roots, stones, and other materials that would interfere with planting and maintenance operations. Unusable material shall be removed and properly disposed of.
13. Mulch: If mulch is used, straw mulch materials shall consist of wheat, oat, or rye straw, hay, grass, or other plants approved by the COR. All areas installed with seed shall be

mulched on the same day as the seeding. Mulch shall be anchored immediately following spreading.

C.7.3.13 Commercial Park Expansion Site Fencing

1. Commercial Park Expansion Sites shall be designed and have a separate price for chain link perimeter fence during the design process. FEMA shall provide direction as to the inclusion of a fence in the final design.
2. If additional site facilities such as retention ponds and substations are to be constructed, or if additional areas of concern are identified by FEMA, the contractor shall provide recommendations for chain link fencing and signage around the perimeters for safety reasons as required by local codes.
3. All construction areas shall have a perimeter marked by orange safety fencing and adequate signage, with controlled ingress and egress. If the commercial park expansion is developed in phases (if allowed/required), all unfinished phases and all construction areas shall be segregated with orange safety fencing and adequate signage. As each phase of the commercial park expansion site is completed and opens to applicants, the unfinished phases and construction areas shall be reconfigured with the fencing and signage.
4. The following specification is to be used unless otherwise approved.
    a. Provide fencing materials conforming to the requirements of ASTM A116, ASTM A702, ASTM F 626, and as specified. Provide hot-dip galvanized (after fabrication) ferrous-metal components and accessories, except as otherwise specified. Provide zinc coating of weight not less than 1.94 ounces per square foot. Provide complete installation conforming to ASTM F 567.
    b. Minimum acceptable line posts are Grade A, 1.900 inch O.D. pipe weighing 2.72 pounds per linear foot. For end, corner, and pull posts provide at a minimum Grade A, 2.375 inch O.D. pipe weighing 3.65 pounds per linear foot. Provide excavations for post footings which are in virgin or compacted soil. Provide line posts spaced equidistantly apart, not exceeding ten feet (10') on center. Do not exceed five-hundred feet (500') on straight runs between braced posts. Provide corner or pull posts, with bracing in both directions, for changes in direction of fifteen (15) degrees or more, or for abrupt changes in grade.
    c. Footings for line posts shall be have bottoms of the holes approximately three inches (3") below the bottoms of the posts. Set bottom of each post not less than thirty-six inches (36") below finished grade when in firm, undisturbed soil. Set posts deeper, as required, in soft and problem soils and for heavy, lateral loads. Remove loose and foreign materials from holes and the soil moistened prior to placing concrete. Tops of footings shall be trowel-finished and sloped or domed to shed water away from posts.

Keep exposed concrete moist for at least seven (7) calendar days after placement or cured with a membrane curing material, as approved. Provide concrete obtaining a minimum twenty-eight (28) day compressive strength of 3,000 psi. Ensure final grading and established elevations are complete prior to commencing fence installation. Install posts straight and plumb within a vertical tolerance of one-quarter inch (1/4") after the fabric has been stretched.

d. For top rails, provide a minimum of 1.660 inches O.D. pipe rails, Grade A weighing 2.27 pounds per linear foot. Provide expansion couplings six –inches (6") long at each joint in top rails. Provide post tops that are steel, wrought iron, or malleable iron designed as a weather tight closure cap. Provide one cap for each post, unless equal protection is provided by a combination post-cap and barbed-wire supporting arm. Provide caps with an opening to permit through passage of the top rail.

e. Provide fabric consisting of No. 9-gage wires woven into a one and three-quarter inch (1 ¾") diamond mesh, with 1.20 ounces per square foot zinc galvanizing. Provide one-piece fabric widths. Fence height will be determined on a site-by-site basis, and communicated to the designer in the task order. Provide fabric in single lengths between stretch bars with bottom barbs placed approximately one and one-half inches (1 ½") above the ground line. Pull fabric taut and tied to posts, rails, and tension wire with wire ties and bands. Install fabric on the security side of fence, unless otherwise directed. Ensure fabric remains under tension after the pulling force is released. Provide tie wires that are U-shaped to the pipe diameters to which attached. Twist ends of the wires not less than two full turns and bent so as not to present a hazard. Install nuts for tension bands and hardware on the side of the fence opposite the fabric side. Peen ends of bolts to prevent removal of nuts.

f. The tension wire shall be galvanized wire, No. 7-gage, coiled spring wire, provided at the bottom of the fabric only. Provide zinc coating that weighs not less than 1.2 ounces per square foot. Provide stretcher bars that have one-piece lengths equal to the full height of the fabric with a minimum cross section of three-sixteenths by three-quarter (3/16" x 3/4") inch. Install tension wires by weaving them through the fabric and tying them to each post with not less than 7-gage galvanized wire or by securing the wire to the fabric with 10-gage ties or clips spaced twenty-four inches (24") on center.

g. Provide stretcher bar bands for securing stretcher bars to posts that are steel, wrought iron, or malleable iron spaced not over fifteen inches (15") on center. Bands may also be used in conjunction with special fittings for securing rails to posts. Provide bands with projecting edges chamfered or eased. Thread stretcher bars through or clamped to fabric four inches (4") on center and secured to posts with metal bands spaced

fifteen inches (15”) on center. Install fencing and gates true to line with no more than one-half inch (1/2”) deviation from the established centerline between line posts.

h. 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. Install brace assemblies so posts are plumb when the diagonal rod is under proper tension. Provide two complete brace assemblies at corner and pull posts where required for stiffness and as indicated.

i. The contractor shall provide means of grounding fences per NFPA 70 unless requirements are different from local authority having jurisdiction. Ground fences at each corner, at the closest approach to each building located within fifty feet (50’) of the fence, and where the fence alignment changes more than 15 degrees. Grounding locations cannot be spaced more than 650 feet. Ground the 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. Provide ground conductor consisting of No. 8 AWG solid copper wire. Provide copper-clad steel rod grounding electrodes three-quarter inch (3/4”) by 10 foot long. Drive electrodes into the earth so that the top of the electrode is at least six inches (6”) below the grade. Where driving is impracticable, bury electrodes a minimum of twelve inches (12”) deep and radially from the fence, with top of the electrode not less than two feet (2’) or more than eight feet (8’) from the fence.

C.7.3.14 Other Site Facilities

1. Telephone and Cable/Satellite Service. The contractor shall coordinate with the telephone and cable/satellite service providers for the commercial park expansion site, allowing them to put their low voltage wires into the water trenches excavated for the site. Coordination shall consist of informing the providers of dates they may perform their services, as soon as that information is known. Designer shall make initial contact with these entities during design in order for their planning department to determine possible actions. The Government will not pay for the services of these providers. This coordination shall not delay construction unless authorized by the CO or COR. All utilities shall be buried deep enough so that if these providers install their infrastructure at a later date they will not cause interruption in existing utilities. These efforts shall be included in the Daily Report (See Section F, Area#30).

2. Mail Boxes**.** Provide and install a number of USPS approved mail boxes -- and kiosk(s) -- at each commercial park expansion site that will sufficiently serve the entire commercial park expansion site. Incorporate a central mail box near the site entrance that does not impede traffic in and out of the site – the mail box areas shall be fully UFAS compliant to include individual and motor vehicle access.

3. Other Non-Standard Items: The contractor may be required to design, construct and install electrical substation(s), sewage lift station(s), and water pressure increaser(s) as directed by the Government, determined by the site design requirements. The determination to construct any of these facilities will be made during the site design process, and FEMA shall review the options that are delivered.
4. Storm Shelters
    a. Regional needs will dictate on a site-by-site basis whether storm shelters need to be designed and constructed for any specific commercial park expansion site. The task order will include direction concerning the inclusion of storm shelter(s). The task order will detail the per-person SF allowances and total expected number of shelter occupants, and that will determine the number, size, and location of the shelters which is to be detailed by the designer.
    b. Any storm shelter shall meet the requirements of *FEMA P-361, Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms, Third Edition (2015)* and *ICC 500-2014 ICC/NSSA Standard for the Design and Construction of Storm Shelters*. The storm shelter shall be a hardened structure with doors which can be closed securely or opened from the inside and from the outside and provided by a company that is normally engaged in the manufacture of such products. They may be subterranean, have earthen berms installed against the sides except where there are doors, or covered with earth fill, as fits the site. The occupancy area shall remain free-drained of water, and allow for fresh air exchange within applicable short-term occupancy standards. The structure shall fully comply with UFAS accessibility standards.
    c. The shelters shall be painted with a durable coating specific for the material of which the shelter is manufactured. Color choices will be provided to the Government for its selection. The shelters shall include a privacy screen and a portable toilet facility.

C.7.3.15 Additional Site Work

Additional considerations during the construction period that are either new requirements or requirements not readily identifiable during design phase.

C.7.3.16 Commercial Park Expansion Construction-Related Bonds

The contractor shall obtain the appropriate required bonds for construction tasks.

Section C.8 Group Site Feasibility, Design and Construction

The purpose of group site construction is to build what would be a commercial manufactured home or recreational vehicle park on vacant land which will be operated for FEMA for the

purpose of housing disaster survivors. While the group site is temporary, construction shall meet all applicable requirements and regulations.

During the feasibility, design and construction process for group site construction, the contractor shall include as part of the inclusion of space and the installation of the tank and pump system on each pad in proximity to the MHU so that the TPS can be connected to the MHU without any changes to TPS water connection or electrical connections provided with the TPS. Where multiple FEMA MHUs are to be installed on adjoining lots, consider using one TPS to supply multiple MHU sprinkler systems as described in the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). FEMA will provide the current guide; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.8.1 Group Site Construction Feasibility

C.8.1.1 Tier One Site Assessment

Tier One Site Assessment is windshield identification of available land for group site construction site development. A report will be generated and submitted to the COR that includes but is not limited to: *Site Photo(s)*, *Site Name, Site Location*, *County* where the site is located, *GPS Coordinates* at the street, *Site Characteristics* that include site vegetation cover, *Current and Past* site use, *Wetlands* visual inspection, *Site Utilities* that include the availability and distance of water, sewer and power sources, *local Zoning* identification, *Site Pros* that outline the positive features and advantages of using the site, *Site Cons* that point out the negative features that would pose a challenge to construction, *Site Size*, *Number of MHUs* that can be located on the site, and *Owner Contact Information*. Include a section as to the feasibility or infeasibility of using the site. This assessment is required to be provided to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #43.

Payment for work completed under this section is CLIN # 0008AA.

C.8.1.1.1 Floodplain Evaluation

Use local floodplain information and Flood Insurance Study (FIS) maps to determine what floodplain designation covers the identified site. Under no circumstances shall a contractor install an MHU within a floodway or coastal high hazard area (otherwise known as "V" Zone). Generate a report and submit to the COR within the timeframe specified in Section F: Deliveries or Performance, Area #44.

Payment for work completed under this section is CLIN #0008AC.

C.8.1.1.2 Wrap-Around Services Evaluation

Wrap-Around Services shall be an integral part of the planning and decision making process when considering group site construction development and operation. The provision of any and all wrap-around services must be addressed at the onset of planning and design. Potential sites in close proximity to the impacted area shall be considered a priority to ensure accessibility to meet the essential needs of the disaster survivors.

The contractor shall identify distances to the nearest infrastructure and essential services to address disaster-related needs of affected residents. Industrial sites and airport approach that would generate noise or other hazards shall be noted. Generate a report that addresses all applicable services for consideration (Attachment 34, Section J.34) and submit to the COR per the established timeline in Section F, #40.

Payment for work completed under this section is CLIN #0008AD.

C.8.1.2 Tier Two Site Assessment and Report

Verify land ownership, verify that the utilities observed during the Tier One Assessment are adequate in supporting the number of MHUs that can be located on the site or outline what shall be accomplished for the utilities to be adequate. Generate a report and submit to the COR per the established timeline in Section F, Area #45. Include any information on the tier two reports that was not identified but required by the tier one report.

Payment for work completed under this section is CLIN # 0008AF.

C.8.1.2.1 Environmental Planning and Historic Preservation Support NEPA

1. FEMA frequently conducts environmental and historical preservation review through completion of an expedited EA. This is a National Environmental Protection Act (NEPA) documentation process that examines a wide variety of potential impacts on environmental and historic resources and addresses the possible presence of hazardous materials and natural hazards. The NEPA process also requires public input into the site selection process. EAs are generally completed within 7-14 days.
2. FEMA may task the contractor to assist with the documentation of the environmental clearance of the group site construction. Generate a report and submit to the COR per the established timeline in Section F, Area #46. Once complete and reviewed, FEMA would approve and sign the environmental clearance, usually an EA. The contractor may be tasked with the following.
    a. Reviewing the site for compliance with a wide variety of environmental/historic preservation laws, policies, and executive orders such as the National Historic Preservation Act, Endangered Species Act, Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), and Executive Order 12898 (Environmental Justice).

b. Coordinating with Federal, Tribal, State and local environmental and historic preservation officials and organizations to provide information on the selected site.

c. Gathering information such as the site address and latitude/longitude in decimal degrees, drawings that show the boundary of the proposed site and how the site related to its surroundings, topography, photographs of the entire site and any structures on the site, endangered species lists (if any), identifying any special resources such as wetlands, and past uses of the land.

d. Compiling copies of other relevant information such as existing environmental assessments, remediation reports, permits, historic property designations or surveys, or archaeological surveys.

i. Generate a report addressing the items needed for a comprehensive EA and not otherwise included in other CLINs. This will include research and investigations into endangered species and wetlands. The report is to include information such as the site address, latitude/longitude in decimal degrees, drawings that show the boundary of the proposed site and how the site relates to its surroundings, topography, photographs of the entire site, any structures on the site, and special resources on the site, such as woodlands. Generate a report and submit to the COR per the established timeline in Section F, Area #49.

Payment for work completed under this section is CLIN # 0008AL.

C.8.1.2.2 Historical Preservation Survey

Conduct research on each site in accordance with preservation laws, policies, and executive orders such as the National Historic Preservation Act. Coordinate with Federal, Tribal, State, and local environmental and historic preservation officials and organizations to obtain information on the selected sites. Compile copies of historic property designations or surveys, or archaeological surveys. Generate a report and submit to the COR per the established timeline in Section F, Area #47.

Payment for work completed under this section is CLIN # 0008AH.

C.8.1.2.3 Environmental Database Search

Conduct a database search on each site to identify past uses of the site, any existing remediation reports, and any information related to potential hazardous materials. Generate a report and submit to the COR per the established timeline in Section F, Area #48.

Payment for work completed under this section is CLIN # 0008AJ.

C.8.2 Group Site Design

C.8.2.1 Site Specific Items

Specific items of work particular to each group site (such as bus shelters, storm shelters, laundry facilities, etc.) will be specified at the time of work order issuance. Site specific items are identified by FEMA using the "Definable Features Checklist", Attachment J.27. During each phase of design the contractor shall, unless directed in writing by the COR, provide the price for each of the site specific items.

C.8.2.2 Design Considerations

The contractor shall design the sites to effectively utilize the full capacity of each site, and account for disaster-specific requirements as defined by FEMA. The following items will be taken into consideration:

1. Each group site shall be designed as a stand-alone package.
2. Work shall be scheduled to meet the required deadlines. Phasing of construction may be requested if deemed necessary.
3. Work may be performed simultaneously at multiple group sites, FEMA group sites and private/commercial sites to meet schedule requirements.
4. Sites will generally be specified to include lots for manufactured homes that are, at a minimum, 40 feet wide by 85 feet (3,400 sq. ft.). These lots will include parking spaces and shall incorporate UFAS requirements where applicable. Local fire code may further dictate the distance between units.
5. In addition to a master meter for the overall site, the design shall be completed such that each manufactured housing unit may be individually metered for all utilities.
6. If a group site is to be constructed on a plot of land that has an existing approved subdivision plan, use the existing designated utility corridors and align the design accordingly.
7. Supporting calculations for the power, sewer, water, drainage, and lighting shall be submitted.
8. Site lighting shall include dusk to dawn lighting and provide one-foot candle lighting along public areas and roadways.
9. The site shall be graded to be free draining for a 10-year storm event or to meet local requirements. The drainage plan shall include storm water retention or detention ponds if required by AHJ.

10. The contractor shall work with local authorities and property owners to provide an area for the storage and staging of equipment and materials.
11. Local requirements are to be taken into consideration for zoning, buffer areas, tree preservation areas, and other conservation areas.
12. Each site shall contain concrete pads for solid waste collection.
13. Ensure that the number and location of fire hydrants are appropriate and conform to the local, State, and the National Fire Protection Association (NFPA) code. The most stringent code shall govern. In addition to DOT criteria, the road layout shall meet the standards of the local fire officials
14. Incorporate adjacent roadways into the design in order to reduce the amount of perimeter roads in the original design. All ingress and egress roads shall have a grade sufficient to allow trailer access. Consideration shall be given to setbacks required by local authorities.
15. A traffic control plan shall be included at each level of design to address both interior traffic and driveway entry onto public roads. Multiple ingress and egress routes to the site may be provided.
16. Coordinate unit addresses with the applicable 911 authorities and USPS Postmaster.
    a. The contractor shall coordinate with local emergency responders to develop roads that will satisfy the requirements for emergency vehicle access. The roads shall allow ample room between parked cars for fire and EMS equipment to pass as defined by local codes.
    b. Work with local emergency services to identify emergency response (911) unit addresses and satisfy emergency responder's need for street signs (sign locations and number).
    c. Provide and install a number of mail boxes and kiosk(s) at each group site construction site that will sufficiently serve the entire site. Mail box areas shall be fully UFAS compliant to include access.
    d. Incorporate a central mail box near the site entrance that does not impede traffic in and out of the site.
17. Additional site features, such as storm shelters, guard shacks, laundry facilities, community centers, green space/pet areas, parking blocks, bike lanes and sidewalks, bike racks, storage sheds, and bus stops may be required based on disaster specific needs, and will be specified by FEMA when applicable.
18. Two clearly identified off-street parking spaces shall be provided for each lot. Each space shall be at least eight (8') feet wide by twenty (20') feet long.

19. At least one van-accessible parking space shall be provided at each bus stop, public area, and mail box area. The van-accessible parking spaces and space access aisles shall be at least nine (9') feet wide to allow all types of wheelchairs or scooters to exit or enter a van using a side-mounted lift and be designated by signs.
20. All Pads designated for an MHU shall have adequate space for the Tank and Pump component of the Residential Fire Sprinkler System.

C.8.2.3 Requirements Meeting

1. The contractor shall meet with the Government to review and define group site construction site requirements at the time that the Government exercises the option to design and build a group site.
2. The contractor shall assist the Government in defining stakeholders, such as State and local Governments, and existing park owner, and utility providers, who may have an interest in the outcome of the group site design.
3. This meeting shall provide the basis for the conceptual design package that the contractor submits to the Government, and can be utilized to facilitate necessary site approvals.

C.8.2.4 Conceptual Design Package

At the direction of the COR and with the issuance of a work order, produce a conceptual design not to exceed 25 percent design package. This is defined as a rough layout with utilities, transportation rights of way, preliminary unit locations, as well as an estimate of site preparation (quantity take-off) and an order of magnitude estimate to allow the FEMA team to compare prices for different sites.

1. The contractor shall provide to the COR three copies and a pdf version of a completed conceptual design package within two (2) operational days after site approval (See Section F, Area #50).
2. The conceptual design package shall consist of a conceptual layout overlaid on an aerial photo. The layout will include lot locations, road locations, utility corridors, laundry facilities and other amenities (as requested by FEMA), and a preliminary price estimate.
3. Other deliverables include the preliminary quantity take-off and an order of magnitude price estimate.

Payment for work completed under this section is CLIN # 0008AN.

C.8.2.4.1 Conceptual Design Package - Redesign

During the conceptual design process FEMA may request that the contractor redesign the group site to include changes. If FEMA requests a redesign and such redesign is not necessitated by the

fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the conceptual design.

Payment for work completed under this section is CLIN # 0008AP.

C.8.2.5 50 Percent Design Package

At the direction of the COR and having been provided a definable features check sheet from the COR, the design process will commence. This CLIN covers all design activities as outlined under the contract section "Group Site Design" from concept to 50 percent design package. This CLIN includes site surveys for purposes of identifying the topography and boundaries for preparing the design. The 50 percent design package shall include an update of all documents submitted for the conceptual design package. The survey shall be submitted as a separate document as part of the 50 percent design package. This CLIN also includes other deliverables such as the preliminary project schedule.

1. The contractor shall submit the 50 percent design package to the COR within four (4) operational days of FEMA's approval of the conceptual package for site development (See Section F, Area #51). The submission shall consist of three (3) copies of full-size drawings, a pdf version of the design, site plans, and other supporting documents as necessary.
2. The contractor shall work with FEMA to coordinate preliminary design approval with State and local officials.
3. The contractor shall provide to the COR the following in the 50 percent design package for each site:

a. Construction Timeline and Milestones

   i. Site development timeline.

   ii. Critical path.

   iii. Projected baselines and daily percentages of work to be completed.

b. Drawings. The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to:

   i. Water and power infrastructure, sewer facilities, and fire hydrants.

   ii. Drainage control plan.

   iii. Curbs, gutters, and sidewalks as required.

   iv. Traffic signs, pavement striping, street lighting, and fencing.

v. Erosion and sediment control plan including detention ponds, water bodies, natural features and amenities, 100 year flood contours, and easements.

vi. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

c. Other Submittals

i. Other Milestones and timelines.

ii. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

iii. Status of anticipated permits required, or copies of letters exempting this project from permit requirements.

iv. Preliminary price estimate is a square foot and cubic foot estimate. Specifically identify prices of add-on features for evaluation purposes. Make price saving recommendations as appropriate.

Payment for work completed under this section is CLIN # 0008AR.

C.8.2.5.1 50 Percent Design Package – Redesign

During the 50% design process FEMA may request that the contractor redesign the group site to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 50% design.

Payment for work completed under this section is CLIN # 0008AT.

C.8.2.6 100 Percent Final Design Package

This CLIN will be used if the decision is made to proceed with the design to 100 percent. This CLIN covers all design activities as outlined under the contract section “Group Site Construction Design” for 100 percent design package. The 100 percent design package shall include an update of all documents submitted for the 50 percent design package. This CLIN also includes project schedule deliverables and other submittals.

1. The contractor shall submit three copies and the pdf version of the 100 percent design package to the COR within two (2) operational days of the approval of the 50 percent design package (See Section F, Area #52). On a case by case basis, the contractor may submit a request to the COR in writing for a change to the required timeframe for the 100 percent design package. This design package consists of the final coordinated design, support plans and information. This will include all Federal, State, and local approvals.

2. The COR, and other representatives determined by FEMA, as well as State and local officials shall review the design package with the contractor. The contractor shall take note of any comments and recommendations, incorporate them into the design, and proceed with the final coordinated (100 percent) design. The contractor's final drawings shall be sealed by a professional engineer who is licensed in the State in which the group site is to be constructed. Three full-size copies, a pdf, and vector version of the design are to be submitted. Electronic copies of the pdf and vector versions shall be delivered to both the CO and the COR. Vector version is defined as Microstation as well as AutoCAD.
3. The phasing strategy and schedule shall be submitted with the 100 percent design for Government review.
4. The contractor shall not proceed with the construction until the CO provides a NTP.
5. The contractor shall provide to the COR the following in the 100 percent design package for each site:

    a. Construction Timeline and Milestones. Project schedule timeline, with tentative start date (tentative until NTP issued).

    b. Risk Management Plan. The contractor, in addition to providing a project schedule with critical path identified, shall analyze their future activities and note key milestones, processes, or events that threaten the schedule. Milestones such as ordering of product, deliveries, preparation of project area for subcontractor mobilization, expected weather events, and utility notification and connection are examples of critical milestones that may not be on the critical path, but could impact the progress or perceptions of progress. These factors shall be listed in matrix or narrative documents, in the format of Activity – Challenge – Discussion – Resolution/Action as the project Risk Mitigation Plan. Include a section in the plan for consideration of risks to personnel and property due to safety considerations. In the event that the project schedule shows a delay in the work in progress, the contractor shall provide the COR, within 24 hours of the request, a plan that shows how the schedule will be recovered.

    c. Quantities for construction. Based on the definable features table in Section J, Attachment J.27.The recommended items for quantity take off are shown, but not limited to, those listed in the table.

    d. Price Estimate.

    e. Drawings. The drawings are to include all existing and proposed physical improvements to the property, including, but not limited to:

i. Water and power infrastructure, sewer facilities, and fire hydrants.

ii. Drainage control plan.

iii. Curbs, gutters, and sidewalks as required.

iv. Traffic signs, pavement striping, street lighting, and fencing.

v. Erosion and sediment control plan including retention ponds, water bodies, natural features and amenities, 100 year flood contours and easements.

vi. Buffer areas, tree preservation areas, conservation areas, existing buildings and structures.

f. Other Submittals

i. Points of contact for all Federal, State and local permitting and regulatory authorities required to participate or provide information for this task.

ii. All permits and status of permits required, or copies of letters exempting this project from permit requirements.

Payment for work completed under this section is CLIN # 0008AV.

C.8.2.6.1 100 Percent Design Package – Redesign

During the 100% design process FEMA may request that the contractor redesign the group site to include changes. If FEMA requests a redesign and such redesign is not necessitated by the fault of the contractor, the contractor shall complete the work within the timeframes and performance requirements that are mandatory for the 100% design.

Payment for work completed under this section is CLIN # 0008AX.

C.8.2.6.2 Construction Proposal Price Breakdown

The contractor shall furnish a price breakdown, including itemization in sufficient detail to permit an analysis of all expenses such as:

1. Material
2. Labor
3. Equipment
4. Subcontracts
5. Overhead
6. Profit

The price breakdown shall be included with both the 50 Percent and 100 Percent Design Packages as specified in Section F, Areas #51 and #52.

C.8.2.6.3 Construction Timeframes

1. Timeframe for Mobilization. Upon issuance of the NTP, the contractor shall mobilize within forty-eight (48) hours and begin construction/installation work.
2. Timeframe for group site construction. The group site shall be completed within the awarded timeframe.

C.8.3 Group Site Construction

These CLINs include all work required to complete a fully functional group site in accordance with the references and requirements described in this contract. (These CLINs are bid after site design is complete and will be negotiated between FEMA and the contractor to become a fixed price based on the contractor's design).

The following areas of the PWs describe the requirements for Group Site Construction.

Section	Title	CLIN #
C.8.3.1	Coordination of Site and Utility Work	*0008AY*
C.8.3.2	Work Limits	*0008AY*
C.8.3.3	Surveying	*0008AY*
C.8.3.4	As-Built Field Surveys	*0008AY*
C.8.3.5	Temporary Construction Facilities for FEMA Personnel	*0008BF*
C.8.3.6	Debris Cleanup	*0008AY*
C.8.3.7	Site Grading	*0008AY*
C.8.3.8	Site Utility Infrastructure	*0008AY*
C.8.3.9	Water Distribution System	*0008AY*
C.8.3.10	Sanitary Sewers	*0008AY*
C.8.3.11	Electrical Service	*0008BC*
C.8.3.12	Roads, Surfaces and Pads	*0008AY*
C.8.3.13	Group Site Construction Site Fencing	*0008AY*
C.8.3.14	Other Site Facilities	*0008AY*
C.8.3.15	Additional Site Work	*0008BA*
C.8.3.16	Group Site Construction-Related Bonds	*0008BM*

C.8.3.1 Coordination of Site and Utility Work

1. All efforts will be effectively coordinated with all Government entities, as required by Federal, State and local laws and regulations.

2. The contractor shall coordinate all utility relocation requirements and make payment to the utility companies for all services, fees, and permits required to relocate and re-establish service if applicable.
3. Utility services shall not be interrupted except for brief periods if necessary to facilitate cut-ins.
4. The contractor shall be responsible for all expenses related to protecting existing utilities. Coordinate utility installations with the local communications companies to include, but not be limited to, the local phone and cable companies, and not to impede completion deadlines.

C.8.3.2 Work Limits

The construction work limits (CWL) as delineated in the drawings shall define the boundaries of the finished group site and shall be the area in which the contractor will have full operational control. Any limited work limits (LWL) delineated in the drawings are meant to depict areas outside the finished group site which provide the contractor temporary access or other usages such as storage of materials. The LWL shall be returned to original conditions upon completion of the group site construction, and such property will return to original usage.

C.8.3.3 Surveying

The contractor shall layout the work from established benchmarks. For each feature of work, field staking shall define area limits such that the COR can easily determine if alignment and/or limit adjustments need to be made.

C.8.3.4 As-Built Field Surveys

1. An as-built field survey of all utilities shall be conducted after installation to determine the final locations and elevations of utility manholes and hydrants. Final elevations shall be determined for all sewer inverts and castings.
2. Three (3) sets of as-built drawings shall be provided to the COR. A vector version shall also be provided to both the CO and COR. All surveys shall be completed per the timeline established in Section F, Area #53.

C.8.3.5 Temporary Construction Facilities for FEMA Personnel

At the discretion of the COR, the contractor may be required to furnish and install an office trailer complete with all utilities and restroom facility. Restroom facilities shall be appropriate for the construction site and be identical to those used by the contractor's construction management personnel.

C.8.3.6 Debris Cleanup

Construction debris, event debris, pre-existing site features, waste materials, packaging material, and the like shall be removed from the work site. The contractor shall sweep adjacent roadways to control dust and water at the site, if deemed necessary by the COR or as required by the condition of any assigned permits.

C.8.3.7 Site Grading

1. During construction, the lines and grades, including crown and cross slope indicated for the base course, shall be maintained by means of line and grade stakes placed by the contractor.
2. Adequate drainage (1percent slope or greater) and erosion sediment control shall be provided during the entire period of construction to prevent water from collecting or standing on the area to be constructed. Roadways and individual pads are to be crowned.
3. The surface of the top layer shall be finished to grade and cross section shown. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections.
4. Should the surface for any reason become rough corrugated, or traffic marked prior to completion, such portions shall be re-graded.
5. Site grades shall be checked for low spots and depressions. All low spots and depressions shall be filled so the entire site has positive drainage.
6. All material placed as fill or backfill shall consist of mineral soils with no vegetative matter. Aggregate shall not be larger than three inches (3”) in size. Unsuitable material shall be disposed of offsite.
7. The parking surfaces shall be sufficiently stable to prevent rutting by passenger vehicles, and any necessary compaction efforts shall be submitted to the COR for acceptance.
8. Soil compaction testing is not required to provide an engineered solution for stabilization of the roads, trenches, and pads. Instead, liberal use of appropriate geotextile products such as Tensar or equivalent shall be specified. Compaction equipment shall consist of steel-wheeled vibratory rollers, minimum 10 ton, or other approved equipment well suited to the soil type being compacted. Water flooding or jetting methods of compaction will not be permitted for any soil types.
9. Any excavation sub-grades that reveal soil conditions that are substantially different from the general site conditions (unstable, pump, rut excessively), or are unsuitable for proceeding with the work, shall immediately be reported to the COR. Soft or otherwise unsatisfactory material shall generally be removed and replaced with satisfactory

excavated material or other approved material as directed. Excess material shall be stockpiled on site at a location directed by the COR.

10. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6”) and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Compaction will be completed once the COR designates that a satisfactory level of compaction has been reached. Generally, levels of compaction for under roadways shall be 100 percent for utility trenches and MHU pads, and shall be 80 percent for the rest of the site.
11. The complete site will be compacted using a minimum of a 10 ton roller with three passes.
12. All areas upon which aggregate is to be placed, including road sub-grades, shall be stripped six inches (6”) before the aggregate placement is started. Material shall not be placed on surfaces that are muddy, or where unsatisfactory material remains in or under the aggregate. The entire area that is stripped shall be rolled prior to the placement of the aggregate. Final grading of the site, including the roadways will be such as to prevent the ponding of surface water.
13. For trenches in road sub-grades, common backfill above the bedding shall be placed in six inch (6") lifts and compacted with special purpose compaction equipment. Compaction equipment shall be selected to avoid damage to the pipe.

C.8.3.8 Site Utility Infrastructure

1. Materials and installation associated with site utility infrastructure shall be in compliance with all Federal, State and local requirements.
2. The contractor shall provide all water and electric meter numbers for each address to the COR within twenty-four (24) hours of installation.
3. Utility stub-ups shall be within the footprint of the MHU within the skirting unless otherwise noted.
4. Pipe Bedding and Backfill.
    a. Reference to pipes shall include conduits, cables, or other utility systems. Appurtenant structures include manholes, catch basins, inlets, outlets, energy dissipaters, or similar structures.
    b. Bedding material shall consist of imported sand fill or gravel. Pipe bedding shall contain no more than 20 percent by weight passing the No. 200 sieve. The maximum allowable aggregate size shall be one and one-half inches (1 ½”) for gravity flow sewer and three-quarter inches (¾”) for pressure pipe. If the bottom of the trench is

soil, four inches of bedding will be required. If the bottom of the trench is rock, six inches of bedding will be required.

c. Unless otherwise indicated, trench excavation shall be by open cut except that short sections may be bored and jacked if the utility can be safely and properly installed and ground loss can be properly controlled. All excavation shall be constructed in accordance with the Safety and Health Requirements Manual (EM 385-1-1) and/or OSHA Standards (29 CFR 1926). Allowable trench widths, depths, side slopes, sheet and bracing requirements, and other considerations are given in the OSHA Standard; and an abbreviated version is given in the Safety and Health Requirements Manual.

d. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in a neat and orderly manner at a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or caving. Topsoil shall be stockpiled separately from suitable backfill material. Grading shall be done as needed to prevent surface water from flowing into the excavation, and any water accumulating therein shall be removed to maintain the stability of the bottom and sides of the excavation.

e. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Pipe shall rest on bedding material along its entire length.

C.8.3.9 Water Distribution System

1. Group Site Water Supply. A connection to the municipal water supply will be required. If none available, wells may need to be drilled. The contractor shall provide alternatives, prices and recommendations for the most price-effective options. The contractor shall coordinate the proper fittings, procedures and meters needed with the local water company.

2. Products. Pipes, fittings, valves, fire hydrants and components of potable water systems which come in contact with the potable water shall conform to NSF 71. Plastic piping system components intended for transportation of potable water shall comply with NSF 14 and be legibly marked with their symbol.

3. Service Lines. The piping for each unit’s water service line shall have a nominal size of three-quarter inch (¾") diameter. Pipe shall be galvanized steel, polyvinyl chloride (PVC) plastic, plastic polyethylene. Water pipe riser shall be a minimum of three-quarter inch (¾”) and compatible with the service line. All pipe connections shall be suitable for the type of service pipe used.

4. Supply and Distribution Lines: Piping for water distribution lines shall designed base on usage demand and sound engineering practices. Pipe shall be ductile iron, PVC, plastic filament-wound or centrifugally cast reinforced thermosetting resin.

    a. **Cathodic Protection**: Cathodic protection shall be provided for all materials subject to corrosion, and shall comply with the provisions of the National Association of Corrosion Engineers (NACE) criteria and standards. All ferrous underground materials shall receive a protective coating with a coating efficiency of 90 percent after fifteen (15) years.

    b. **PVC Plastic Pipe:** Pipe, couplings and fittings shall be manufactured, tested and delivered in accordance with AWWA C900. Pipe shall be Pressure Class 150 (SDR 18).

5. Valves: All valves, gate valves, and valve boxes shall be of a specification compatible with the public utilities in the area. Valve pits shall be constructed at locations indicated or as required. Water supply shut-off valves shall be easily accessible to the occupant, such as through a cut-out in the skirting, or a sill-cock that extends through the skirting.

6. Service Stops: All service lines shall include a one inch (1") curb stop (shutoff) valve. Service stops shall be water-works inverted-ground-key type, oval or round flow way, tee handle, without drain. All parts shall be of bronze with female iron-pipe-size connections or compression-pattern flared tube couplings, and shall be designed for a hydrostatic test pressure not less than 200 psi. All service stops and valves shall be provided with service boxes.

7. Fire Hydrants: Hydrants shall be dry-barrel type conforming to AWWA C502. Outlets shall have American National Standard fire-hose coupling threads. Working parts shall be bronze. Design, material, and workmanship shall be equal to the latest stock pattern ordinarily produced by the manufacturer. Fire hydrants shall be located and installed as designed. Each hydrant shall be connected to the main with a seven inch (7") branch line having at least as much cover as the distribution main. Hydrants shall be set plumb with the pumper nozzle facing the roadway, with the center of the lowest outlet not less than eighteen inches (18") above the finished surrounding grade. Not less than seven (7) cubic feet of free-draining broken stone or gravel shall be placed around and beneath the waste opening of dry barrel hydrants to ensure drainage. At concept, the contractor shall coordinate number and location of fire hydrants with local fire marshal.

8. Disinfection:

    Disinfection shall be in accordance with the authority having jurisdiction. If an authority having jurisdiction is silent then the contractor shall follow the steps listed below.

a. Chlorinating materials shall conform to the following: Liquid chlorine, AWWA B301 and Hypochlorite, Calcium and Sodium: AWWA B300.

b. Before acceptance of potable water operation, each unit of completed waterline shall be disinfected as prescribed by AWWA C751. After pressure tests have been performed, the unit to be disinfected shall be thoroughly flushed with water. All entrained dirt and mud shall be removed before introducing the chlorinating material. The chlorinating material shall be liquid chlorine, calcium hypochlorite, or sodium hypochlorite, and shall provide a dosage of not less than fifty (50) ppm.

c. Valves on the lines being disinfected shall be opened and closed several times during the contact period, and the line shall then be flushed with clean water until the residual chlorine is reduced to less than one (1.0) ppm. During the flushing period, each fire hydrant on the line shall be opened and closed several times. From several points in the unit, the contractor shall take samples of water in proper sterilized containers. These samples shall be taken to a state-certified laboratory for bacterial examination. The disinfection shall be repeated until tests indicate the absence of pollution for at least two (2) full days. The unit shall not be accepted until satisfactory bacteriological results have been obtained.

9. Meters: Water meters, valve boxes and appurtenances may be installed at individual trailers in accordance with all local codes and shall meet the standards of the local municipality and shall be individually metered. If the local authority is unable to supply separate meters for all required installations, the contractor shall procure the remaining amount to ensure that a separate water meter is in place for each housing unit.

10. Winterization: When required, individual unit water lines shall be insulated with electric heat tape or other approved winterization treatment. Winterized lines shall extend a minimum fourteen inches (14”) below the surface of the ground under the MHU or per manufacturer instructions.

11. Placing and Laying: PVC pipe shall be installed and backfilled in accordance with *ASTM D 2774 - Recommended Practice for Underground Installation of Thermoplastic Pressure Piping*, and any additional State and local codes. Water-line materials shall not be dropped or dumped into the trench. The full length of each section of pipe shall rest solidly upon the pipe bedding, and pipes shall not be laid in water or when trench conditions are unsuitable for the work. Water shall be kept out of the trench until joints are complete. When work is not in progress, open ends of pipe, fittings, and valves shall be securely closed so that no trench water, earth, or other substance will enter the pipes or fittings. Pipe ends left for future connections shall be valved, plugged, or capped, and anchored. All lines are to be placed six inches (6”) below local frost lines.

12. Utility Separation: The water lines shall be spaced from sewer lines in compliance with all State requirements. The minimum horizontal separation between water and sewer lines shall be ten feet (10'). In the case of water and sewer lines crossing, the vertical separation shall be eighteen inches (18") or more, and one (1) full length of water pipe shall be located so both joints will be above and as far from the sanitary sewer line as possible. Special structural support for the water and sanitary sewer pipes may be required. If the tolerances cannot be met, the pipes shall be sleeved or encased in concrete at the direction of the COR. Water lines shall not be laid in the same trench with sewer lines, fuel lines, or electric wiring.
13. Thrust Restraint: Plugs, caps, tees, and bends deflecting thirty (30) degrees or more, either vertically or horizontally, on waterlines four inches (4") in diameter or larger, and fire hydrants, shall be provided with thrust restraints.
14. Hydrostatic Test: The water line shall be tested by the contractor after the pipe is laid, the joints completed, and the trench partially backfilled. The hydrostatic test shall meet the requirements of the local public services jurisdiction. Be sure to check with local Public Service District for guidance on preferred manhole design.
15. References: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
    a. AMERICAN WATER WORKS ASSOCIATION (AWWA)
        vii. AWWA B300 (1992) Hypochlorite
        viii. AWWA B301 (1992) Liquid Chlorine
        ix. AWWA C500 (1993; C500a) Metal-Sealed Gate Valves for Water Supply Service
        x. AWWA C502 (1994; C502a) Dry-Barrel Fire Hydrants
        xi. AWWA C651 (1992) Disinfecting Water Mains
        xii. AWWA C900 (1997) PVC Pressure Pipe and Fabricated Fittings, four inches (4") through twelve inches (12"), For Water Distribution
    b. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
        v. NFPA 24 (1995) Installation of Private Fire Service Mains and Their Appurtenances
        vi. NSF INTERNATIONAL (NSF)
        vii. NSF 14 (1998) Plastics Piping Components and Related Materials

viii. NSF 61 (1999) Drinking Water System Components - Health Effects (Sections 1-9)

C.8.3.10 Sanitary Sewers

1. Pipe Sizes: Laterals shall be no smaller than four (4") inches in size. Trunk lines shall be designed based on usage demand and sound engineering practices. Acrylonitrile-butadiene-styrene (ABS) and PVC composite sewer pipe and fittings shall conform to ASTM D 2780. Fittings shall be compatible with the pipe supplied and shall have a strength not less than that of the pipe.
   a. ABS Pipe and fittings: shall comply with ASTM D 2751.
   b. PVC Pipe and fittings: PVC pipe and fittings shall comply with ASTM D 3034, Type PSM with a maximum SDR of 35. PVC shall be certified as meeting the requirements of ASTM D 1784, cell Class 12454B. PVC pipe shall be installed and backfilled in accordance with ASTM D 2321
   c. Flexible plastic pipe: Joints shall conform to ASTM D 3212.
2. Manholes: Prefabricated of pre-cast concrete sections conforming to ASTM C 478. Joints shall be cement mortar, approved mastic, rubber gaskets, a combination of these types; or the use of external preformed rubber joint seals and extruded rolls of rubber with mastic adhesive on one side. A ladder shall be provided where the depth of a manhole exceeds four feet (4'). The ladder shall be constructed in accordance with OSHA Standard. Frames and covers shall be cast iron, ductile iron or reinforced concrete. Cast iron frames and covers shall be as indicated or shall be of type suitable for the application, circular, without vent holes. The frames and covers shall have a combined weight of no less than four hundred (400) pounds and be seal-tight lids. Reinforced concrete frames and covers shall be as indicated or shall conform to ASTM C 478.
3. Sewer Pipe Laying:
   a. Bedding material shall consist of imported sand fill or gravel. Pipe bedding shall contain no more than twenty percent (20%) by weight passing the No. 200 sieve. The maximum allowable aggregate size shall be one and one-half inches (1 ½") for gravity flow sewer and three-quarter inches (¾") for pressure pipe.
   b. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe, which shall rest on bedding material along its entire length. For trenches in road sub-grades, common backfill above the bedding shall be placed in twelve inches (12") lifts and compacted with special purpose compaction equipment, selected to avoid damage to the pipes.

c. After other required tests have been performed and the trench backfill compacted to two feet (2') above the top of the pipe, the pipe shall be inspected, with the COR and local inspectors present, to determine whether significant displacement has occurred. If, in the judgment of the inspector or the COR, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, the defects shall be remedied as directed at no additional expense to the Government.

d. Trenching: Unless otherwise indicated, trench excavation shall be by open cut. Short sections may be bored and jacked if the utility can be safely and properly installed and ground loss can be properly controlled. All excavation shall be constructed in accordance with OSHA Standards (29 CFR 1927).

4. Sewer Riser: The sewer riser shall be vertical and terminate no more than four inches (4") above ground level with a standing wye at the staked location. The cleanout inlet will be plugged with a threaded cap. The vertical inlet shall be plugged or capped until such time as it is connected to the MHU.

5. Deflection Test:

a. Deflection tests shall be performed on the entire length of the installed pipeline after completion of all work. These shall include the leakage test, placement of any fill or backfill, grading, paving, concrete, or superimposed loads.

b. Deflection shall be determined by use of a deflection device or by use of a spherical ball. A tolerance of plus 0.5 percent will be permitted unless local standards are more stringent. Installed pipe showing deflections greater than 7.5 percent of the normal diameter of the pipe shall be retested by a run from the opposite direction. If the retest also fails, the suspect pipe shall be replaced at no expense to the Government.

C.8.3.11 Electrical Service

1. General:

a. The contractor shall provide all equipment, labor and supplies necessary to install all metering/disconnect pedestals, electrical cabling, conduit and other ancillary equipment for each MHU lot as shown on contract plans. This shall include the delivery and installation of all systems necessary to meet this requirement including any and all procurements of permits and inspections by the local AHJ. The contractor shall also work closely with the electrical utility company for infrastructure installation coordination. Primary and secondary electrical distribution to each electrical service meter shall be completed by the local electrical utility company in a separate contract.

b. The service entrance conductors from the meter to the 200A disconnect and from the 200A disconnect to the stub-up location at each MHU lot shall be single conductor

cables, “triple rated” (wet/dry, flame retardant, direct burial). The service entrance conductors shall also be aluminum, XLP, USE-2, 600V rated. The minimum service entrance conductor sizes shall be three #4/0 and one #4 gnd. Ten feet of power cable shall be coiled up above the stub-ups. The conductors shall be marked with a uniform color code with colored polyvinyl “electrical” tape in the following manner:

Hot 1: Red
Hot 2: Black
Neutral: White
Ground: Green

The service entrance conductors from the meter to the stub-up location shall be installed underground in minimum two inches (2”) schedule 40 PVC conduit. All PVC conduit joints shall be glued and secured with an approved standard product. The minimum burial depth shall be thirty-six inches (36”) or as approved by the local AHJ. The maximum distance allowable from the disconnect to the MHU is thirty feet (30’) – zero inches (0”).

c. Two ground rods and grounding wiring shall be provided and installed at each lot. One shall be placed at the metering location and one near the stub-up location. The grounding rods, #4 bare copper wire and connections shall meet or exceed the local electric service utility and AHJ’s requirements. The grounding rods shall be minimum five eighths inch (5/8”), ten feet (10’) – zero inches (0”) long, copper clad. The stub-up location shall include five feet (5’) – zero inches (0”) of #4 bare copper grounding wire with approved clamps to attach to the grounding rod and to the chassis of the temporary housing unit.

d. At locations where dissimilar metals are bonded (i.e. copper to aluminum) use a dielectric grease compound.

e. See contract drawings for additional details, equipment and requirements.

f. Due to the nature of this work with an accelerated schedule, alternate products may be used if the required equipment is not readily available, only if approved by the Contracting Officer.

g. The contractor shall connect the stub-up conduit to the MHU’s point of service entrance with liquid-tite flexible conduit and appropriate fasteners and terminate the service lateral on the terminals of the MHU interior electric distribution panel or MHU junction box depending on the design of the MHU.

h. All exposed PVC conduit installed on poles shall be securely fastened with two-hole straps, a minimum of two per 5-foot length or fraction thereof.

2. Electrical Utility Coordination:

a. The contractor shall coordinate the electrical service installation process with the serving electric utility company. Before the system is energized, the contractor shall ensure all necessary lockouts are in place, appropriate circuit breakers are off, and electric water heaters are full.

b. The contractor shall install an electric meter base for each MHU, provided by the local utility company. If the meter bases are not provided, the contractor shall provide meter bases approved by the local electric utility company/cooperative and install them.

c. Coordinate electric power distribution with electrical codes and configure for metering at each individual pad on the sites. The sites shall also be configured so common areas, including lighting and shelters, shall be metered separately from the individual pads.

d. Rebates offered by utility companies for usage offsetting installation fees shall be accounted for by the contractor and returned to the Government as a credit against the contract.

e. At FEMA's direction, the contractor shall set up a utility account for site development until FEMA obtains the account after completion of site development. This includes a thirty (30) day transition after site completion. The price for the utility account will be reimbursed by the Government if receipts documenting the expense are provided to the COR.

3. Codes for Distribution: The manufactured home park electrical power distribution system shall be installed in accordance with all applicable requirements of the latest edition of the National Electrical Code (NFPA 70), including article 550 Part C, the National Electrical Safety Code and the requirements of the local AHJ .

   a. All material shall be new and shall carry the UL label.

   b. MHU service equipment shall be installed in accordance with NFPA 70 article 550-23.

   c. There shall be no splices in the wiring between the load side of the MHU service disconnects and the line side lugs on the trailer load center

   d. All services shall be grounded according to NFPA 70, article 250. A ground shall be carried to each trailer panel.

   e. Conduit shall be securely attached to the electrical boxes in accordance with NFPA 70. Sweeps shall be used at the Manufactured Home/Park Model junction box and meter loop assembly.

4. Electrical Security Lighting: The contractor shall provide and coordinate installation of security lighting with local utility company or provide by some other means as approved by the COR or the CO. The lighting shall provide light distribution along roadways, near

bus shelters, mailboxes, playgrounds or as applicable. The average illuminance value of these locations shall be no less than 1.0 foot candle. If the lighting is connected to the local power grid, the contractor shall have an electrical engineer design the requirement and coordinate with the local power utility.

C.8.3.12 Roads, Surfaces and Unit Pads

1. Hard Surfaces: Construct appropriate hard surfaces in all common areas to include but not be limited to dumpster/recycling pads, bus stop, mail kiosk, etc.
2. Speed Bumps: At the direction of FEMA, speed bump(s) may be required to be installed in accordance with local/State regulation and industry practices.
3. Road Materials: The aggregates for the surface and base course shall meet State or local standards but generally shall have no more than 20 percent fines and no more than 80 percent passing the one and three-quarter inch (1 ¾") sieve. A stabilization fabric or geo-textile fabric shall underlay the aggregate.
4. Paving (If Required)
    a. Roads, parking pads, and aprons for mailboxes shall be surfaced with asphalt pavement. Asphalt section thicknesses shall be a two inch (2") base and a one and one-half inch (1 ½) surface course. Mix design shall be formulated in accordance with State Department of Transportation (DOT)/Department of Highways (DOH) for municipal streets. Installation procedures shall follow State DOT/DOH guidelines.
    b. Pads and aprons for garbage and recycling dumpsters shall be concrete, six inches (6") thick, with ultimate strength of 3000 PSI, with welded wire fabric. Aprons shall be large enough that the routine traversing of the trucks picking up trash shall bear mainly on the concrete rather than the asphalt (e.g., 20 feet out from the dumpster pad).
    c. Concrete: All concrete shall have a minimum 28-day compressive strength of three thousand (3000) psi. Concrete shall be batched, delivered and placed in accordance with ACI 318 standards.
5. Compaction: All plant, equipment, and tools used in the performance of the work shall be subject to approval and shall be maintained in satisfactory working condition at all times. The equipment used for compaction shall meet the requirements of the referenced State standard specification sections. During fill and backfill placement, each layer shall be spread uniformly in a maximum un-compacted lift thickness of six inches (6") and compacted with equipment appropriate for the material until there is no further evidence of consolidation. Embankments and subgrades shall be kept crowned or sloped for drainage. All work shall implement best management practices for erosion control.

6. Preparation: All topsoil and surface material shall be removed and the sub-grade compacted prior to the placement of the filter or geo-textile fabric and aggregate base. There shall be no evidence of depressions from site equipment or excess rutting.
7. Finishing: The surface of the top layer shall be finished to grade, and the finished surface shall be of uniform texture. Light blading during compaction may be necessary for the finished surface to conform to the lines, grades, and cross sections. Should the surface for any reason become rough, corrugated, uneven in texture, or traffic marked prior to completion, such unsatisfactory portion shall be graded.
8. Testing: Coarse Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136. Fine Aggregate Material Testing and Analysis shall be performed in accordance with ASTM C136.
9. Fabric Placement: Placement shall be in accordance with manufacturer's recommendation.
10. Species and Rates: Seeding species and rates shall be specified that are compatible with local climate and soil conditions. Due consideration shall be given to the longevity of plants, resistance to traffic and erosion, and attraction of birds or large animals. The contractor shall furnish the COR with duplicate signed copies of a statement by the vendor certifying that each lot of seed has been tested by a recognized laboratory for seed testing within seven (7) months of date of delivery. Labels shall be in conformance with AMS-01 and applicable State seed laws. Local offices of the USDA Soil Conservation Service and the State University Agricultural Extension Service (County Agent or equivalent) shall be consulted for assistance with seeding, liming and fertilizer recommendations.
11. Hydroseeding: Hydroseeding is required unless otherwise approved. The hydroseeding operation shall apply the seed, mulch, and fertilizer simultaneously. Fertilizer shall be applied at a rate proposed by the contractor and agreed to by the COR. The mulch shall be applied at a rate of about one (1) ton per acre. During application, the spray shall be directed to obtain a uniform material distribution as evidenced by a formation of a "blotter-like" cover, with about 5 percent void area. The mulch shall permit percolation of water to the underlying soil. The seed mixed with water and fertilizer shall be applied within one (1) hour after adding to the tank.
12. Topsoil: Topsoil shall be defined as any soil that is capable of supporting vegetative growth, and can be distinguished from the underlying soil by color, texture, moisture retention capacity, or odor. Stripped topsoil shall be kept separate from other unusable excavated materials, brush, litter, objectionable weeds, roots, stones, and other materials

that would interfere with planting and maintenance operations. Unusable material shall be removed and properly disposed of.

13. Mulch: If mulch is used, straw mulch materials shall consist of wheat, oat, or rye straw, hay, grass, or other plants approved by the COR. All areas installed with seed shall be mulched on the same day as the seeding. Mulch shall be anchored immediately following spreading.

C.8.3.13 Group Site Construction Site Fencing

1. Group site construction sites shall be designed and have a separate price for chain link perimeter fence during the design process. FEMA shall provide direction as to the inclusion of a fence in the final design.
2. If additional site facilities such as detention ponds and substations are to be constructed, or if additional areas of concern are identified by FEMA, the contractor shall provide recommendations for chain link fencing and signage around the perimeters for safety reasons as required by local codes.
3. All construction areas shall have a perimeter marked by orange safety fencing and adequate signage, with controlled ingress and egress. If the group site is developed in phases (if allowed/required), all unfinished phases and all construction areas shall be segregated with orange safety fencing and adequate signage. As each phase of the group site is completed and opens to applicants, the unfinished phases and construction areas shall be reconfigured with the fencing and signage.
4. The following specification is to be used unless otherwise approved.
    a. Provide fencing materials conforming to the requirements of ASTM A116, ASTM A702, ASTM F 626, and as specified. Provide hot-dip galvanized (after fabrication) ferrous-metal components and accessories, except as otherwise specified. Provide zinc coating of weight not less than 1.94 ounces per square foot. Provide complete installation conforming to ASTM F 567.
    b. Minimum acceptable line posts are Grade A, 1.900 inch O.D. pipe weighing 2.72 pounds per linear foot. For end, corner, and pull posts provide at a minimum Grade A, 2.375 inch O.D. pipe weighing 3.65 pounds per linear foot. Provide excavations for post footings which are in virgin or compacted soil. Provide line posts spaced equidistantly apart, not exceeding ten feet (10’) on center. Do not exceed five-hundred feet (500’) on straight runs between braced posts. Provide corner or pull posts, with bracing in both directions, for changes in direction of fifteen (15) degrees or more, or for abrupt changes in grade.

c. Footings for line posts shall be have bottoms of the holes approximately three inches (3”) below the bottoms of the posts. Set bottom of each post not less than thirty-six inches (36”) below finished grade when in firm, undisturbed soil. Set posts deeper, as required, in soft and problem soils and for heavy, lateral loads. Remove loose and foreign materials from holes and the soil moistened prior to placing concrete. Tops of footings shall be trowel-finished and sloped or domed to shed water away from posts. Keep exposed concrete moist for at least seven (7) calendar days after placement or cured with a membrane curing material, as approved. Provide concrete obtaining a minimum twenty-eight (28) day compressive strength of 3,000 psi. Ensure final grading and established elevations are complete prior to commencing fence installation. Install posts straight and plumb within a vertical tolerance of one-quarter inch (1/4”) after the fabric has been stretched.

d. For top rails, provide a minimum of 1.660 inches O.D. pipe rails, Grade A weighing 2.27 pounds per linear foot. Provide expansion couplings six inches (6”) long at each joint in top rails. Provide post tops that are steel, wrought iron, or malleable iron designed as a weather tight closure cap. Provide one cap for each post, unless equal protection is provided by a combination post-cap and barbed-wire supporting arm. Provide caps with an opening to permit through passage of the top rail.

e. Provide fabric consisting of No. 9-gage wires woven into a one and three-quarter inch (1 ¾”) diamond mesh, with 1.20 ounces per square foot zinc galvanizing. Provide one-piece fabric widths. Fence height will be determined on a site-by-site basis, and communicated to the designer in the task order. Provide fabric in single lengths between stretch bars with bottom barbs placed approximately one and one-half inches (1 ½”) above the ground line. Pull fabric taut and tied to posts, rails, and tension wire with wire ties and bands. Install fabric on the security side of fence, unless otherwise directed. Ensure fabric remains under tension after the pulling force is released. Provide tie wires that are U-shaped to the pipe diameters to which attached. Twist ends of the wires not less than two full turns and bent so as not to present a hazard. Install nuts for tension bands and hardware on the side of the fence opposite the fabric side. Peen ends of bolts to prevent removal of nuts.

f. The tension wire shall be galvanized wire, No. 7-gage, and coiled spring wire, provided at the bottom of the fabric only. Provide zinc coating that weighs not less than 1.2 ounces per square foot. Provide stretcher bars that have one-piece lengths equal to the full height of the fabric with a minimum cross section of three-sixteenths by three-quarter (3/16” x 3/4”) inch. Install tension wires by weaving them through the fabric and tying them to each post with not less than 7-gage galvanized wire or by securing the wire to the fabric with 10-gage ties or clips spaced twenty-four inches (24”) on center.

g. Provide stretcher bar bands for securing stretcher bars to posts that are steel, wrought iron, or malleable iron spaced not over fifteen inches (15”) on center. Bands may also be used in conjunction with special fittings for securing rails to posts. Provide bands with projecting edges chamfered or eased. Thread stretcher bars through or clamped to fabric four inches (4”) on center and secured to posts with metal bands spaced fifteen inches (15”) on center. Install fencing and gates true to line with no more than one-half inch (1/2”) deviation from the established centerline between line posts.

h. 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. Install brace assemblies so posts are plumb when the diagonal rod is under proper tension. Provide two complete brace assemblies at corner and pull posts where required for stiffness and as indicated.

i. The contractor shall provide means of grounding fences per NFPA 70 unless requirements are different from local authority having jurisdiction. Ground fences at each corner, at the closest approach to each building located within fifty feet (50’) of the fence, and where the fence alignment changes more than 15 degrees. Grounding locations cannot be spaced more than 650 feet. Ground the 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. Provide ground conductor consisting of No. 8 AWG solid copper wire. Provide copper-clad steel rod grounding electrodes three-quarter inch (3/4”) by 10 foot long. Drive electrodes into the earth so that the top of the electrode is at least six inches (6”) below the grade. Where driving is impracticable, bury electrodes a minimum of twelve inches (12”) deep and radially from the fence, with top of the electrode not less than two feet (2’) or more than eight feet (8’) from the fence.

C.8.3.14 Other Site Facilities

1. Telephone and Cable/Satellite Service. The contractor shall coordinate with the telephone and cable/satellite service providers for the group site construction site, allowing them to put their low voltage wires into the water trenches excavated for the site. Coordination shall consist of informing the providers of dates they may place their facility, as soon as that information is known. Designer shall make initial contact with these entities during design in order for their planning department to determine possible actions. The Government will not pay for the services of these providers. This coordination shall not delay the construction unless the CO or COR authorize the contractor. All utilities shall be buried deep enough so that if these providers install their infrastructure at a later date they will not cause interruption in existing utilities. These efforts shall be detailed in the Daily Report (See Section F, Area #30)

2. Mail Boxes. Provide and install a number of USPS approved mail boxes and kiosk(s) at each group site that will sufficiently serve the entire group site construction site. Incorporate a central mail box near the site entrance that does not impede traffic in and out of the site – the mail box areas shall be fully UFAS compliant to include individual and motor vehicle access.
3. Other Non-Standard Items: The contractor may be required to design, construct and install electrical substation(s), sewage lift station(s), and water pressure increaser(s) as directed by the Government, determined by the site design requirements. The determination to construct any of these facilities will be made during the site design process, and FEMA shall review the options that are delivered.
4. Storm Shelters
    a. Regional needs will dictate on a site-by-site basis whether storm shelters need to be designed and constructed for any specific group site construction site. The task order will include direction concerning the inclusion of storm shelter(s). The task order will detail the per-person square foot allowances and total expected number of shelter occupants, and that will determine the number, size, and location of the shelters which is to be detailed by the designer.
    b. Any storm shelter shall meet the requirements of *FEMA P-361, Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms, Third Edition (2015)* and *ICC 500-2014 ICC/NSSA Standard for the Design and Construction of Storm Shelters*. The storm shelter shall be a hardened structure with doors which can be closed securely or opened from the inside and from the outside and provided by a company that is normally engaged in the manufacture of such products. They may be subterranean, have earthen berms installed against the sides except where there are doors, or covered with earth fill, as fits the site. The occupancy area shall remain free-drained of water, and allow for fresh air exchange within applicable short-term occupancy standards. The structure shall fully comply with UFAS accessibility standards.
    c. The shelters shall be painted with a durable coating specific for the material of which the shelter is manufactured. Color choices will be provided to the Government for its selection. The shelters shall include a privacy screen and a portable toilet facility.

C.8.3.15 Additional Site Work

Additional considerations during the construction period that are either new requirements or requirements not readily identifiable during design phase.

C.8.3.16 Group Site Construction-Related Bonds

The contractor shall obtain the appropriate required bonds for construction tasks.

Section C.9 Group Site Maintenance

C.9.1 Group Site Maintenance SCOPE

The contractor shall be responsible for maintenance and upkeep of the group site. This may include the servicing and inspection of utility systems, buildings and structures and grounds facilities for the purpose of detecting and correcting incipient failures and accomplishing minor maintenance.

C.9.2 Group Site Maintenance Requirements

Group site maintenance requirements encompass all subsections listed below except for group site maintenance inspection and other sections with specific CLINs.

The following areas of the PWs describe the requirements for Group Site Maintenance.

Section	Title	CLIN #
C.9.2.1	Group Site Maintenance Inspection	*0009AC*
C.9.2.2 (including C.9.2.2.1 through C.9.2.2.3)	Plumbing System Repair and Service (and Subsections)	*0009AA*
C.9.2.3	Storm Drainage System	*0009AA*
C.9.2.4	Electrical System Repair and Service	*0009AA*
C.9.2.5	Road Repair and Service	*0009AA*
C.9.2.6	Site Clean-up Service	*0009AA*
C.9.2.7	Fence Repair and Service	*0009AA*
C.9.2.8	Grounds Maintenance	*0009AA*
C.9.2.9	Pest Control Service	*0009AA*
C.9.2.10	Storage	*0009AA*
C.9.2.11	Lawn Service	*0009AE*
C.9.2.12	De-Icing Services	*0009AG*
C.9.2.13	Snow Removal	*0009AG*
C.9.2.14	Miscellaneous Maintenance for Group Site	*0009AI*

C.9.2.1 Group Site Maintenance Inspection

The contractor shall perform additional inspection of the entire group site, as required by FEMA to include inspections for preparatory and post storm reasons and activities, and/or incidents of national significance. This task consists of performing systematic inspections of the interior and

exterior of the site. This includes inspection of equipment, utility plants and systems, buildings and structures, and grounds facilities for the purpose of detecting incipient failures and accomplishing minor maintenance. Group site maintenance inspections shall be completed within the timeframe specified in Section F, Area #56.

C.9.2.2 Plumbing System Repair and Service

The contractor shall perform all plumbing system inspections and minor repairs. This includes all external potable water and sanitary sewer lines from the connection with the MHU to the point of connection (POC) with the local utility. The contractor shall perform all required maintenance and pipefitting work on all plumbing, sewage and exterior mechanical piping systems and components, and on all exterior mechanical piping systems. The contractor shall install, repair and maintain plumbing related systems and their associated components in accordance with applicable sections of the most current edition of the Uniform Plumbing Code (UPC) and applicable State building codes.

C.9.2.2.1 Domestic Water System

The contractor shall perform maintenance and repair services for all domestic water supply and distribution systems and ensure that they are properly sanitized. Domestic water system (DWS) is a comprehensive term that refers to the potable water supply systems. The DWS shall start at the point of connection from the utility provider, at point of entry to the group site (valve or water meter) including water main, service lines, headers, isolation valves, storage tanks, air relief valves, pressure reducing valves, backflow prevention devices, fire hydrants, and etc., extending to, and including the valve and water meter at the MHU. Potable water is defined as water that is fit for human consumption. If the DWS needs to be cut into to be serviced, the contractor is responsible for making sure all lines are properly sanitized upon completion of the work and restore the water to meet all Federal and local regulations for drinking water requirements.

C.9.2.2.2 Sanitary Sewer

The contractor shall perform all work required to operate and maintain the sanitary sewer system, from the cleanout outside the skirting with each manufactured home, through all branch lines, mains, and lift stations as required and to the final connection with the local utility. This work includes inspecting cleanouts, manholes and lift stations periodically, as well as clearing obstructions from these lines as needed.

C.9.2.2.3 Clean Outs

Sewage shall flow freely through all clean outs without restrictions. In the event of a main sewer backup, all affected cleanouts shall be inspected to ensure that service is restored to all customers

immediately after the blockage is removed. If a sewage spill occurs and sewage overflows on the ground, the contractor shall clean and sanitize the area in accordance with local code requirements.

C.9.2.3 Storm Drainage System

The contractor shall perform all work required to operate and maintain the storm water drainage system. This requirement can begin at the MHU if necessary, and extend to the POC with the local utility. This work includes inspecting cleanouts, manholes and lift stations periodically, as well as clearing obstructions from these lines as needed. The contractor shall perform all required maintenance and conduit work on all drainage and exterior mechanical drainage systems and components. The contractor shall perform all cleaning necessary on all storm water drainage systems to ensure that all run-off water flows freely through culverts and storm drains (including drainage ditching).

C.9.2.4 Electrical System Repair and Service

The contractor shall maintain all components of the electrical distribution system from the POC to the group site including but not limited to the pad mounted transformers, underground wiring up to and including the meter serving each MHU. This includes performing all electrical system inspections and minor repairs required for electrical work to ensure a continuous supply of electrical power including electricity for miscellaneous seasonal and special events, installing, and adjusting all electrical systems, including service and distribution, interior lighting, exterior lighting, street lighting, shelter lighting, and emergency lighting. This also includes service to emergency shelters as well as other structures (guard shacks, management office facilities etc.), and all electrical components associated with the water supply or sewer systems (i.e. pumps or lift stations). This includes the following:

- Pole Mounted Meter Base: The contractor shall maintain power up to the pole mounted meter base, conduit, weather head and wiring to the Power Company’s connection. This shall also include any emergency shelter, security/street lighting.
- Gang Mounted Meter Bases: The contractor shall maintain electrical service up to and including all electrical wire, grounding rod, pole, meter, and wiring connected to main breaker serving each MHU.

C.9.2.5 Road Repair and Service

Road inspections and minor grading shall be performed as necessary to ensure that road surfaces are maintained in a smooth drivable condition free of potholes. Additional road surface material shall be added to maintain said condition. This includes but not limited to providing some additional gravel/asphalt and/or patching for minor potholes. The appropriate repair material shall be used to match the existing road surface and promote positive drainage.

C.9.2.6 Site Clean-up Service

Site clean-up shall be performed weekly. Clean-up will also be performed prior to cutting grass to ensure that the site is clean. This includes, but is not limited to, pick-up and disposal of any trash and/or debris present on the site. The contractor may be required to pick-up used appliances and furniture that are not addressed with the garbage service. The contractor shall provide twice-per-week dumpster service. Any debris that is blocking walking or driving surfaces or otherwise causes a hazard will be removed immediately. The contractor shall take the appropriate actions to remove abandoned vehicles to ensure they do not block walkways and driveways. If any biological hazards are identified the COR shall be notified immediately.

C.9.2.7 Fence Repair and Service

The contractor shall repair and/or replace fencing, as necessary, to maintain a safe and secure area. Fencing requirements shall be coordinated and specified with the COR or the CO. Fencing will be provided for substations and emergency shelters associated with the group site.

C.9.2.8 Grounds Maintenance

The contractor shall maintain all exterior ground surfaces within the group site property. This includes but is not limited to adding fill material to cover any holes, repair sidewalks, concrete pads, driveways, or other tasks required to ensure the site is safe, sanitary and secure.

C.9.2.9 Pest Control Service

The contractor shall provide monthly pest control services and inspections throughout the site, except inside the MHUs. These inspections are performed by the unit maintenance contractor and coordinated with the COR. Ensure that treatment is rendered, as appropriate, to control, prevent, or otherwise mitigate the pests in an efficient, safe and effective manner. The contractor shall provide services to control cockroaches, ants, fleas, ticks, spiders, bees, wasps, hornets, pigeons, Japanese beetles, rats, mice and other pests. The contractor will be responsible for rodent traps and bait stations, carcass removal, animal captures, and bird nest removal. The contractor shall clean areas littered by bird nests and droppings. They shall identify any problem areas, structural features, potential areas for pest infestation, or personnel operational practices contributing to pest infestations and any other constraints.

Pesticides: All pesticides used by the contractor shall be registered with the EPA and the State Department of Health for the use intended. All pesticide handling, mixing, storage and application shall be in strict accordance with manufacturer's label instructions. The contractor shall ensure that all personnel applying pest control chemicals are properly licensed in accordance with applicable Federal, State, and local law and regulations.

C.9.2.10 Storage

The contractor shall furnish their own storage space at no explicit expense to the government.

C.9.2.11 Lawn Service

Lawn service shall include grass cutting, trimming of any growth formed along fences, emergency shelters, and dumpsters and including three (3) feet immediately outside the group site. This excludes the substation.

C.9.2.12 De-Icing Services

The contractor shall (if applicable) provide and spread salt or other de-icing components on streets and walkways to prevent or reduce ice and snow buildup on public walkways or sidewalks. The contractor shall immediately remove ice to provide secure footing or safe driving conditions. The contractor will provide the de-icing material and equipment. The contractor shall remove and dispose of excess accumulations of de-icing compound when it is no longer required.

C.9.2.13 Snow Removal

The contractor shall remove snow and ice from group site streets to allow access to all pad/lots on the site as well as entrance ramps on UFAS accessible sites. The contractor shall remove snow, including drift or piles, from all roads, parking lots, and access to amenity facilities, lift stations, and main emergency shut off valves and switches. The contractor shall remove snow when accumulation reaches three inches (3") or within two (2) hours after the snowfall stops. This may require multiple snow/ice removals each day. When snowfall is heavy or accumulations become excessive, the contractor shall place excess snow in accumulation points identified by FEMA. Any de-icing agents shall meet all environmental and local health codes.

C.9.2.14 Miscellaneous Maintenance for Group Site

A miscellaneous maintenance CLIN may be issued to the contractor if maintenance work cannot be completed within the SCOPE of an existing CLIN. Any items or services required to maintain the group site not covered in other parts of this PWS will require approval from the CO. The contractor shall develop a price proposal for all work to be carried out as part of this assignment. The final negotiated price will become a fixed price item

Section C.10 New Unit Warranty Repairs

C.10.1 Repair/Replace New Units in the Field

FEMA has implemented a field warranty repair process for new units which will be known as "new unit warranty repairs". FEMA will set fixed prices for both the installation contractor and the MHU manufacturer to repair or replace items that are typically defective from the factory. These items are not apparent when FEMA inspects manufactured houses and are only apparent when a contractor installs a unit, connects it to utilities (water, sewer and electrical) and starts the systems within the manufactured home such as the HVAC. New unit warranty repairs are only for new units and their initial installation.

The installation contractors shall be required to provide FEMA with documentation that a repair or replacement is required and receive written authorization before beginning the work. Documentation shall be provided on the form located at Section J, Attachment J.12. Written authorization can be in the form of a work order, signed document from Section J, Attachment J.12 or an email from the COR.

The contractor shall maintain records of all new unit warranty repairs and track trends with a specific manufacturer. If a trend(s) is detected, notify the COR, in writing, so that FEMA can notify the MHU manufacturer to take corrective action.

FEMA has developed the prices for the new unit warranty repairs program using a number of sources that are applicable nationwide. In order to provide prices for future years, FEMA has used inflation rates based on U.S. Bureau of Economic Analysis (BEA) information as of 01/30/2013. Prices have been rounded up to the nearest $10.00 increment.

In Section J, Attachment 32, FEMA has provided a list of repair and replacement items and estimated prices, and in the event that defects are recurrent in the same unit, FEMA will only pay for the first repair or replacement.

If there are repairs or replacements that are required to make a new unit RFO and they are not on the list, the contractor shall provide FEMA with a written price estimate for the repair/replacement. FEMA reserves the right to determine whether or not the repair/replacement is a warranty item and is within the scope of MHU installation.

Payment for work completed under this section are CLINs #0013AA through #0013BS as specified.

Section C.11 Task Order Award

C.11.1 Log HOUSE Task Order Types

All products and services acquired under the Log HOUSE contracts are awarded through task orders in accordance with the Federal Acquisition Streamlining Act (FASA) and FAR 16.505(b) requirements for fair opportunity to be considered.

The Log HOUSE contracts allow for three types of task order awards.

1. Competition for Full and Open awardees
2. Competition for Small Business Set Aside award for Haul & Install
3. Competition for Small Business Set Aside award for Maintenance & Deactivation

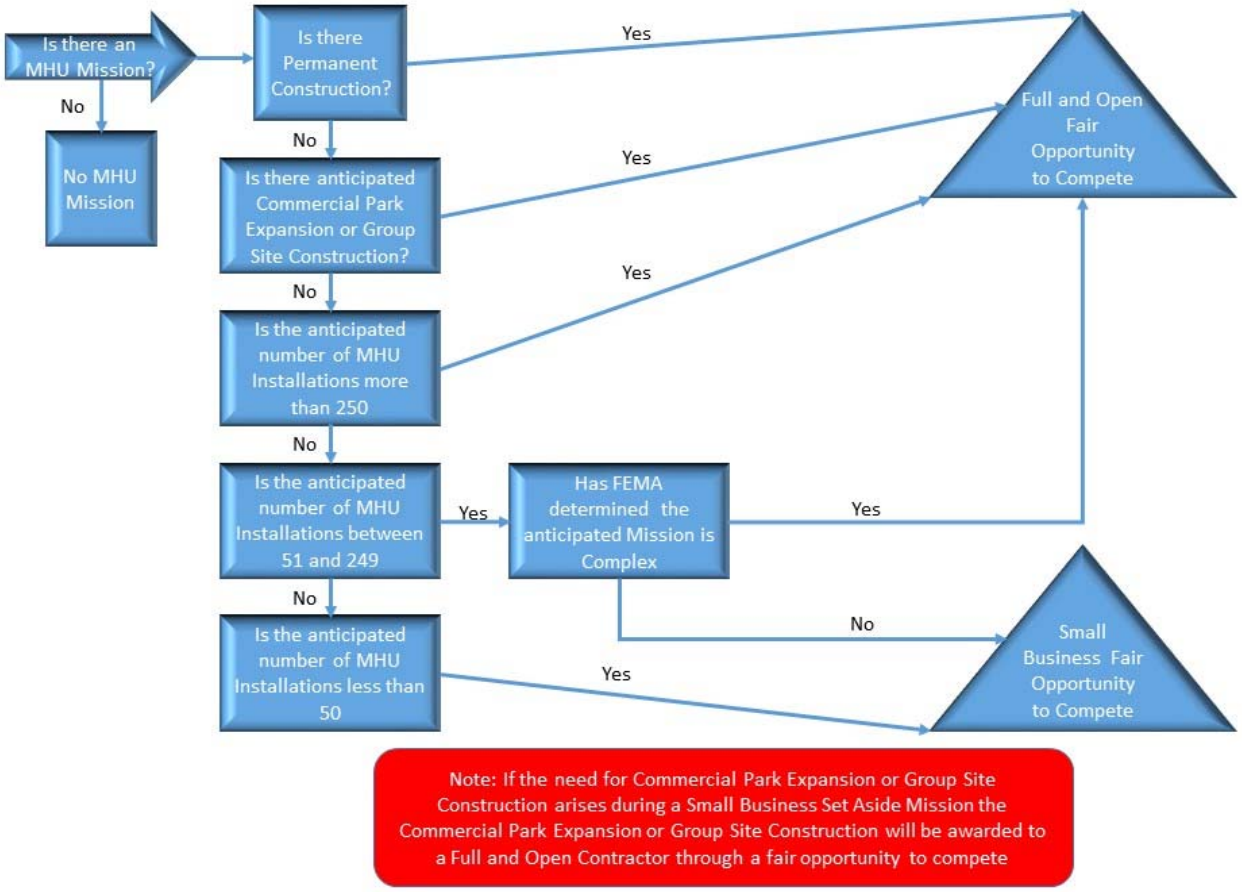
There will be no cross competition between task order award types (i.e., Full and Open contractors will not compete against small business set-aside contractors). FEMA has established an overall process for awarding task orders; however, the Agency reserves the right to employ alternative methods of contracting when it is in the best interest of the Agency, disaster survivor and or the tax payer.

Based on the size and complexity of each mission, FEMA will adapt the types of task orders used to meet the needs of the disaster. Following are a few examples of FEMA's potential approach to a specific mission need:

- Full and Open Awardee Missions:
    - Missions that anticipate the construction of group sites or commercial park expansion will be reserved for the full and open awardees.
    - If a mission is anticipated to exceed 250 units the mission will be awarded to a full and open awardee.
    - Semi-Permanent/Permanent Construction (Permanent Installation of MHUs)
- Small Business Awardee Missions:
    - Missions with less than 50 MHUs installed will be awarded to small business set aside awardees for both the haul & install and maintenance & deactivation tasks.
- Any Awardee Size:
    - Missions between 51 and 249 MHUs installed, FEMA (at the JFO in conjunction with the CO) will decide which contractor type (large or small business) will serve the best interest of the government and compete the task order among that group of contractors unless the mission includes items specifically reserved for Full and Open Awardees.
- Other Conditions for Task Order Award:

- For task orders awarded to haul & install small business set aside awardees, maintenance begins when the haul & install contractor turns the MHU over to FEMA.
- For haul & install task orders awarded to Full and Open contractors, maintenance begins any time after the haul & install contractor turns the MHU over to FEMA. The Agency will make a determination based on the needs of the Government as to when or if a Log HOUSE small business set aside maintenance contractor will maintain MHUs that are installed by a Full and Open awardee.
- If the mission continues to grow and the small business set aside contractor is able to handle the work load, the mission will remain with the small business set aside contractor.
- FEMA will either engage a Full and Open contractor or use other contracting methods to provide the required group site or commercial park expansion services. If a Full and Open contractor is tasked with the group site or commercial park expansion, that contractor will also be responsible for the installation of MHUs in the group site or expanded commercial park. If FEMA uses other methods of contracting, the Agency will determine what is in its best interest for the installation of units in the group site or commercial park expansion.

The following chart illustrates the above bullets:



C.11.2 Log HOUSE Task Order Proposal Requests (TOPR)

C.11.2.1 Fair Opportunity Competitions

The CO solicits task order proposals from all contractors that qualify in the category that is specified in the contract or for missions that have an anticipated size between 51 and 249 MHUs. The contractors are typically allowed 48 hours to prepare and submit offers (may be changed to increase or decrease time allowed based on response time requirements or the complexity of the requirement). Each task order proposal will indicate the proposal due date and the evaluation criteria including their relative importance. Task order proposals will be evaluated based on the price proposal and contractor past performance. Task order proposals shall be submitted by email and receipt will be confirmed by the CO or Contract Specialist.

The contractors shall submit no-bid replies or price proposals no later than the proposal due date and time. No-bids shall be submitted to the CO by email and must reference the tracking number specified in the CO's RFP letter.

The contractors who consistently submit no bids or who do not bid will have their lack of availability or no response documented as part of their past performance.

C.11.2.2 Past Performance

The government shall consider contractor Past Performance on the Log HOUSE as part of the task order award process. In addition to Log HOUSE past performance, FEMA will consider other past performance as part of the task order award process. As part of any task order proposal request the contractor may provide past performance examples. Non-Log HOUSE past performance examples shall be submitted in a streamlined format, normally no more than two pages per past performance effort (depending upon the complexity of the requirement). Non-Log HOUSE past performance shall be limited to two examples which shall have been either completed within the last seven years, or are on-going work. The examples can be contracts or task orders where the contractor is either the prime contractor or subcontractor. Non-Log HOUSE examples of past performance shall identify if the contractor was the prime or sub. In selecting the past performance efforts, the contractor shall consider the factors stated in the Proposal Evaluation Plan as well as the technical task areas identified in the task order. Accuracy of past performance data is of significant importance since the government will verify the information provided for each effort. The Government will not track down past performance references. If the Contactor submits past performance without current contact information the government will not include that past performance reference in the evaluation.

In addition to the information that the contractor submits with their task order proposal response, past performance information may be obtained from the CO as well as other, less formal methods including but not limited to discussions with FEMA staff.

C.11.2.3 Price Proposals

The price proposal shall include detailed price amounts of all resources required to accomplish the requirement (i.e. man-hours, equipment, travel, etc.). Log HOUSE is primarily a fixed price contract. The contractors are encouraged to review the fixed price portion of their contracts and provide the Government with the best and final offer with each individual task order proposal. At a minimum, the following data are required:

- Firm Fixed Price (FFP). Identify labor categories in accordance with the contract's Labor Rate Tables and the number of hours required for performance of the tasks. The contractor shall provide complete price proposals that include the identification and rationale for all non-labor and ODC price elements and identify any Government Furnished Equipment and/or Government Furnished Information required for task order performance.

The contractor submits the past performance and price proposals for evaluation. When a fair opportunity exception does not apply, the Agency conducts an evaluation based on the evaluation criteria.

C.11.3 Log HOUSE CLINs

Awarded CLINs in task orders under the Log HOUSE contract can be thought of as accounts with ceilings. Use of the account is authorized by a work order issued by the CO or COR requiring that contractor to perform a specific task under the terms and conditions of the contract such as installing an MHU, conducting a site inspection or providing a design for a group site or commercial park expansion. It is the responsibility of the contractor to ensure that there is adequate funding remaining in the CLIN prior to providing the services requested in the work order. When a specific CLIN is 80% expended the contractor shall notify the COR and the CO in writing.

Prices in the Log HOUSE contract are fixed at the unit of work level and not the CLIN level. For example the CLIN for MHU installation is awarded in the task order for the price of $100 per installation. The MHU installation CLIN has a total of $1000 for 10 MHU installations. On the first day that the COR can (based on the terms of the contract) issue two work orders for MHU installation then the provisional remaining balance is $800 and the contractor can bill FEMA for the installation of two MHUs once the MHUs have been accepted as RFO by FEMA (in

accordance with the billing provisions of the contract). After eight MHU installations are issued the contractor shall notify the CO and COR that the MHU installation account is at 80%.

When FEMA awards a task order under the Log HOUSE contract vendors are provided with Not to Exceed (NTE) amounts for each CLIN. The task order is awarded so that the NTE amount applies to the individual CLIN and not the entire task order. FEMA attempts to estimate the quantities and prices for each CLIN to the best of the Agency's ability; however, since Log HOUSE supports disaster operations, actual quantities required for any individual CLIN may vary from the original estimate. Changes in the required amount for any individual CLIN will be accomplished by modification.

There are three general areas for CLINs:

- Not To Exceed CLINs where the unit price is fixed (e.g., installation of a manufactured home; additional linear feet of electrical wire; or price per mile for site inspections)
- Not To Exceed CLINs where the individual item price is negotiated using an estimate from the contractor (e.g., maintenance repair of an item that exceeds $250; additional work needed to install a manufactured home above base prices)
- Not To Exceed CLINs for Other Direct Expenses

It is the contractor's responsibility to monitor the level of all CLINs and notify the CO and COR when any individual CLIN has 20 percent of the funds remaining or the 20 percent of remaining funds is estimated to be reached. The contractor is responsible for stopping work on any individual CLIN when that CLIN does not have funding. The contractors who do not notify the government of the approach of funds being exhausted or who continue work after funds have been exhausted do so at the contractor's own risk.

Section C.12 Field Task Order Requirements

C.12.1 Field Task Order Management (FTOM) Staff/Labor

The Government will not determine how a contractor fills the FTOM roles or define how many positions are available for each manufactured housing unit mission size. FEMA will allow the contractor to provide the size requirements for FTOM for all phases of the manufactured housing unit mission task order. The contractor may decide whether or not FTOM positions work from the field or from another location. The contractor's performance will be evaluated based on a comparison of their initial FTOM budget and the actual FTOM labor prices as adjusted or any changes required by FEMA. The ability to realistically estimate funding and staffing for the FTOM is a key factor for contractor performance.

Expenses that are allowable under FTOM include:

- Labor for authorized positions.
- Travel to/from and within the area of operation.
- Lodging using GSA approved rates.
- Rental car
- Gas, tolls and other miscellaneous rental car related expenses (e.g., parking).
- For each Field Task Order Management employee, the contractor shall provide justification for additional expenses, such as supplies and shipping increases in FTOM staffing, not associated with a change in FEMA requirements. All approved increases shall be in writing from the CO or COR for inclusion with invoices as per the invoicing instruction. See Section F, Area #28.

Please see the Personnel Competencies (Section J, Attachment 37) for the qualifications for each of the FTOM positions. The contractor is responsible of hiring the appropriate personnel, and ensuring performance of the work per the contract specifications. If contractor personnel do not meet all of the qualifications identified in Section J, Attachment 37, the contractor shall be held responsible for the successful completion of the work as defined in the contract and task order. The contractor shall utilize prudent judgment when selecting personnel.

Payment for work completed under this section shall be charged to the appropriate labor category using CLINs # 0011AA through #0011AZ.

C.12.1.1 Limitations on Use of FTOM Staff/Labor

FTOM staff may work on multiple projects or task orders issued under this contract; however, FTOM staff cannot be double billed.

FTOM positions and CLINs are provided so that the contractor can manage and oversee a task order. The contractors must ensure that FTOM staff is not double billed to the Government either by having a single individual wearing two hats and charging two CLINs or by having FTOM staff perform other services that are directly billed as fixed unit prices. The COR will monitor the contractor to ensure that double billing does not occur.

For example: 1) A contractor chooses to use FTOM staff to perform site inspections. The contractor cannot bill the Government under both the FTOM CLIN and the Site Inspection CLIN. 2) An FTOM employee acts as the maintenance call center.

FTOM staff cannot bill overlapping hours on two separate task orders. For example, if the contractor has two maintenance task orders either within the same disaster area of operation or in multiple disaster areas of operation and the contractor chooses to use a task order manager then the task order manager shall not invoice both disasters if the task order manager is located in the field. If the task order manager is located remotely and will charge a day rate, the task order manager may charge individual disaster response operations by the day.

C.12.2 FTOM Travel

The following describes the reimbursement of travel authorized under this contract. Travel includes all forms of transportation used to arrive at a disaster location i.e. airplane, rail, car, etc. These travel price requirements are for travel to and from a disaster as well as travel to and from any other authorized locations. Other locations include but are not limited to travel for purposes of badging or FEMA-authorized training. Contractor travel expenses under the terms of the FEMA Log HOUSE contract are fixed price.

GENERAL

Expenses shall be reimbursed for Contractors authorized to travel for a specific task order declaration.

Travel shall be paid at a fixed rate.

Destination expenses shall be paid for each day the Contractor is deployed (there are no deductions for the first or last day of travel).

Destination expenses shall be paid per the applicable table(s) below.

In exceptional cases, when lodging waivers are in effect for Federal employees, the actual expense basis of reimbursement may be authorized. The maximum amount that you may be reimbursed under actual expenses is limited to 300%. When approved and in accordance with the FEMA Travel Manual, Chapter 4: Per Diem and Miscellaneous Expenses, Section E: Actual Expenses. The CO or COR will notify the Contractor when actual expenses are authorized and inform the Contractor of any changes.

Expenses for travel to other authorized locations (for badging, training, etc.) shall be paid at the standard rate.

Receipts for travel expenses covered under this directive shall not be included in the Contractor invoice.

ELIGIBILITY FOR REIMBURSEMENT

For purposes of this contract, travel expenses are divided into two groups: travel expenses and destination expenses. Both groups of expenses include a number of items which when combined provide the total reimbursable amount for Contractor travel. FEMA will review these expenses and adjust, if necessary, for future option years. Travelers who are local to a disaster or other FEMA event are not eligible for reimbursement. Local travel is defined as either the traveler's home or office is within 50 miles of the destination.

Travel expenses include:

Transportation to or from an airport, bus terminal or rail station;

Price of an airline, bus or rail ticket;

Price of associated taxes and fees for the ticket (which include U.S. excise tax on airfare, passenger facility charges and September 11th security fee); and;

Luggage fees.

Travel by vehicle is also reimbursed using the fixed travel expenses from this directive.

Travel by vehicle shall not include any additional Contractor labor from additional time required to travel to a destination over and above a single day.

Travel by vehicle shall be reimbursed at the standard travel rate and not at the emergency travel rate even if the travel by vehicle takes place within the first 21 days after a task order is awarded.

Destination expenses* include:

Lodging and lodging tax;

Meals and incidental expenses as defined in the FTR;

Transportation to and from any destination while deployed; Rental car and tax; and

Gas, tolls and other miscellaneous rental car related expenses (e.g., parking).

**Destination* expenses *are based on the 2016 GSA Per Diem rates for the continental U.S. and will change as GSA rates changes.*

REIMBURSEMENT RATE

Travel expenses shall be paid at a fixed rate. “Emergency travel” is authorized for the first 21 days after a task order has been issued and is set at $950.00 each way. Starting on the 22nd day and continuing until the end of the task order, travel will be paid at the “standard travel” rate which is $590.00 each way. For each individual FTOM staff position authorized to support a disaster in the field, FEMA will reimburse the Contractor as follows:

For the first month that a FTOM position (PM, Deputy PM, Admin) is deployed, the Contractor may charge either the emergency travel rate or the standard travel rate.

For each subsequent month the Contractor may charge two standard travel rates for each position authorized until the month where a position is demobilized.

For the final month that a FTOM position is authorized (the month that the position demobilizes) the Contractor may charge a single standard travel rate.

If the Contractor does not fill an authorized position, the Government will not reimburse the Contractor for travel for the unfilled position. Travel expenses are associated with the position and not the individual contractor employee.

The following is an example of travel reimbursement for a four (4) person deployed team.

Position	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
FTOM	1 – ETR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	1 – STR
Deputy FTOM	1 – ETR	2 – STR	2 – STR	1 – STR					
Admin 1	1 – ETR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	2 – STR	1 – STR
Admin 2	1 – STR	2 – STR	2 – STR	2 – STR	1 – STR				

Emergency Travel Rate = ETR

Standard Travel Rate = STR

FTOM, Deputy FTOM and Admin 1 deploy within 48 hours of the task order being issued.

Admin 2 deploys 25 days after task order is issued.

The FTOM and Admin 1 stay for the entire nine months of the task order.

Deputy FTOM stays for four months.

Admin 2 stays for five months.

Destination expenses are determined by 1) adding the applicable GSA Per Diem amounts for lodging, meals and incidental expenses for the duty station location, and 2) finding the number in the "Category" column of the applicable table below that is less than or equal to the GSA Per Diem total. The identified number in the "Category" column will determine the daily/weekly

amount authorized. The use of any of the tables with rates in excess of 100% must be approved in accordance with FEMA Manual 122-1-1, FEMA's Travel Policy Manual. The CO or COR will notify the contractor if expenses in excess of the standard per diem rate is authorized and when the authorization expires. Expenses that exceed the authorized amount will not be reimbursed.

Use this table when there is no authorization to exceed the GSA Per Diem rates:

Established Rate Table		
Category	Daily Total	Weekly Total
145	275.00	$1,925.00
160	290.00	$2,030.00
180	310.00	$2,170.00
200	335.00	$2,345.00
220	355.00	$2,485.00
240	375.00	$2,625.00
260	400.00	$2,800.00
290	435.00	$3,045.00
320	535.00	$3,745.00
350	570.00	$3,990.00
374	600.00	$4,200.00

Use this table when there is an authorization to exceed the GSA Per Diem rate that is greater than 100% but less than or equal to 150%.

Actual Expense Rate Table - 150%

Category	Daily Total	Weekly Total
145	330.00	$2,310.00
160	350.00	$2,450.00
180	385.00	$2,695.00
200	415.00	$2,905.00
220	450.00	$3,150.00
240	475.00	$3,325.00
260	510.00	$3,570.00
290	560.00	$3,920.00
320	680.00	$4,760.00
350	725.00	$5,075.00
374	780.00	$5,460.00

Use this table when there is an authorization to exceed the GSA Per Diem rate that is greater than 150% but less than or equal to 200%.

Actual Expense Rate Table - 200%		
Category	Daily Total	Weekly Total
145	385.00	$2,695.00
160	415.00	$2,905.00
180	460.00	$3,220.00
200	500.00	$3,500.00
220	545.00	$3,815.00
240	570.00	$3,990.00

260	615.00	$4,305.00
290	685.00	$4,795.00
320	825.00	$5,775.00
350	885.00	$6,195.00
374	960.00	$6,720.00

Use this table when there is an authorization to exceed the GSA Per Diem rate that is greater than 200% but less than or equal to 250%.

Actual Expense Rate Table - 250%		
Category	Daily Total	Weekly Total
145	440.00	$3,080.00
160	475.00	$3,325.00
180	530.00	$3,710.00
200	580.00	$4,060.00
220	635.00	$4,445.00
240	670.00	$4,690.00
260	725.00	$5,075.00
290	810.00	$5,670.00
320	975.00	$6,825.00
350	1,040.00	$7,280.00
374	1,135.00	$7,945.00

Use this table when there is an authorization to exceed the GSA Per Diem rate that is greater than 250% but less than or equal to 300%.

Actual Expense Rate Table - 300%		
Category	Daily Total	Weekly Total
145	500.00	$3,500.00
160	535.00	$3,745.00
180	605.00	$4,235.00
200	660.00	$4,620.00
220	730.00	$5,110.00
240	765.00	$5,355.00
260	830.00	$5,810.00
290	935.00	$6,545.00
320	1,120.00	$7,840.00
350	1,200.00	$8,400.00
374	1,315.00	$9,205.00

Payment for Other Direct Expenses for FTOM Travel use CLIN #0011BA.

C.12.3 FTOM Additional Expenses (Non-travel ODCs)

Additional expenses will be reimbursed at a fixed monthly rate. The Contractor shall provide a fixed monthly rate for additional expenses at the time of a task order proposal. The fixed monthly rate for additional expenses shall include all expenses that are related to the Contractor's field operations and are not covered in either the FTOM staff expenses or the FTOM travel expenses. Additional expenses include overnight shipping expenses, software licenses, and other such expenses must be approved in advance by the COR. FTOM additional expenses will be paid for any month that the task order is active and will be included in the monthly invoice.

Payment for work completed under this section use CLIN # 0011BB.

C.12.4 Contractor Field Office

If required by FEMA, and approved in writing by the CO, the contractor shall establish a field office within the disaster area of operation, if space is limited or unavailable for the contractor at the Joint Field Office. Prior to establishing a field office, the contractor shall provide the COR with a complete list of items required to determine need and cost reasonableness. Contractor furnished property includes the facility, office equipment, internet and telephone connections. Any increase to the initial list of items shall be approved in advance by the COR. Approved items shall be billed to a single CLIN and shall include receipts.

The contractor shall provide FEMA with work space as directed by the CO.

Field offices required as part of construction projects (e.g. commercial park expansion or group site construction) are not included in this work description.

Payment for work completed under this section is CLIN # 0011BC.

Section C.13 Site Inspection Employees and Installation Crew Reserve

C.13.1 Work Order Issuance Rate

During the task order proposal process, FEMA will provide an estimated number of private/commercial park site inspections and commercial park feasibility site inspections as well as MHU installations on a daily basis. The contractor shall ensure that there is adequate staff to meet these estimates. FEMA has developed a method to compensate the contractor for:

- Site inspection rate which fall below seventy percent (70%) of FEMA's estimate; or
- Installation rate that falls below eighty percent (80%) of FEMA's estimate.

The contractor shall manage fluctuation of 30% above or below FEMA's estimate for site inspections and 20% above or below FEMA's estimated installation rate.

C.13.1.1 Private/Commercial Park Site Inspections and Commercial Park Feasibility Inspection Fluctuations

FEMA will allow the contractor to recover sixty-five percent (65%) of the Fixed Unit Price for the allowable number of private/commercial park site inspections and commercial park feasibility site inspections which are below FEMA's provided estimated rate in the MHUM Scope or subsequent notices to the contractor. The current estimated inspection rate will remain in place until FEMA notifies the contractor, in writing, that there is a change. When FEMA lowers the estimated inspection rate, the rate change is effective the next day. If FEMA increases the estimated inspection rate, the contractor shall have no more than three (3) days to increase staffing to meet the new requirement. The Inspection Rate Loss CLIN is for expenses associated

with retaining inspectors when FEMA does not provide the contractor with the daily estimated number of MHUs to be installed. The Inspection Rate Fluctuations do not apply for semi-permanent/permanent installation.

The Inspection Rate Loss CLINs (Standby Expenses) are based on the private site rate and are calculated as follows:

Example Task Order information *(This information is provided for purposes of the example only. The information does not confer or imply that FEMA agrees to any of the information provided.)*

Category	Rate/Cost			
Private Inspection Rate	20 units/day			
Private Inspection Price	$200/unit			
Actual Inspection Work Orders Day X	10 inspections			

Example number of non-issued work orders eligible for inspection rate loss compensation:

- On day X FEMA issues ten (10) inspection work orders
- The difference between the estimated inspection rate and the actual number of work orders issued is ten (10)
- Seventy percent (70 %) of the estimated inspection rate of twenty (20) is fourteen (14)
- The number of MHU inspection eligible for compensation is four (4). Calculations:
    - Fourteen (14) Site Inspections (70% of estimated)
    - Ten (10) actual Site Inspection work orders issued
    - The difference between the seventy percent (70%) number which is fourteen (14) and the actual number of work orders issued which is ten (10) is four (4)

Example price (value) of MHUs eligible for inspection rate loss compensation:

- The price of an MHU installation is: $200 per Site Inspection
- Seventy percent (70%) of the price of a Site Inspection is $140.00
- Number of Site Inspections eligible for compensation as Site Inspection rate loss is four (4)
- The price of the example day's inspection rate loss is $ 560.00

In the example above the contractor shall submit a work order for CO/COR approval in the amount of $560.00.

Payment for work completed under this section use CLIN #0012AA.

C.13.1.2 Installation Rate Fluctuations

FEMA will allow the contractor to recover sixty-five percent (65%) of the Fixed Unit Price for the allowable number of MHU installations below FEMA's provided estimated rate in the MHUM Scope or subsequent notices to the contractor. The current estimated installation rate will remain in place until FEMA notifies the contractor, in writing, that there is a change. When FEMA lowers the estimated installation rate, the rate change is effective the next day. If FEMA increases the estimated installation rate, the contractor shall have no more than eight (8) days to increase staffing to meet the new requirement. The Installation Rate Loss CLIN is for expenses associated with retaining installation crews when FEMA does not provide the contractor with the daily estimated number of MHUs to be installed. The Installation Rate Fluctuations do not apply for semi-permanent/permanent installation.

The Installation Rate Loss CLINs (Standby Expenses) are calculated as follows:

Example Task Order information *(This information is provided for purposes of the example only. The information does not confer or imply that FEMA agrees to any of the information provided.)*

Category	Rate/Cost			
Installation Rate	10 units/day			
Installation Price	$2,540/unit			
Actual Installation Work Orders Day X	6 installations			

Example number of MHUs eligible for installation rate loss compensation:

- On day X FEMA issues six (6) installation work orders
- The difference between the estimated installation rate and the actual number of work orders issued is four (4)
- Eighty percent (80 %) of the estimated installation rate of ten (10) is eight (8)
- The number of MHU installations eligible for compensation is two (2). Calculations:
    - Eight (8) MHU installations (80% of estimated)
    - Six (6) actual MHU installation work orders issued
    - The difference between the eighty percent (80%) number which is eight (8) and the actual number of work orders issued which is six (6) is two (2)

Example price (value) of MHUs eligible for installation rate loss compensation:

- The price of an MHU installation is: $2,540 per MHU
- Sixty-five percent (65%) of the price of an MHU installation is $1,651
- Number of installations eligible for compensation as installation rate loss is two (2)
- The price of the example day's installation rate loss is $3,302

In the example above the contractor shall submit a work order for CO/COR approval in the amount of $3,302.

Payment for work completed under this section use CLIN #0012AC.

Section C.14 Additional Requirements

C.14.1 Training, Exercise and Pre-event Activities

NOTE: CONTRACTORS SHALL NOT SUBMIT PROPOSALS FOR TRAINING, EXERCISE AND PRE-EVENT ACTIVITIES THAT ARE IDENTIFIED AS OPTIONAL FOR FEMA BASED ON ACCEPTABLE TASK ORDER PROPOSALS AS PART OF THE PROPOSAL FOR LOG HOUSE. TRAINING, EXERCISE AND PRE-EVENT ACTIVITIES ARE INCLUDED EITHER AS PART OF THE MINIMUM GUARANTEE OR ARE SUBJECT TO TASK ORDER COMPETITION AFTER AWARD. FEMA WILL NOT CONSIDER ANY PROPOSALS FOR TRAINING, EXERCISE AND PRE-EVENT ACTIVITIES THAT ARE INCLUDED WITH THE LOG HOUSE PROPOSAL.

FEMA Log HOUSE contract awardees are required to respond to task orders and execute missions with limited notice. FEMA understands that in order to meet this requirement, contractors must establish a posture that will allow for a limited notice response. In order to facilitate a limited notice response, FEMA has incorporated training, exercise and other pre-event activities into the contract.

Contractor staff attending onsite (at FEMA locations) training and exercise events must be badged in accordance with HSPD-12 requirements or receive written approval from the COR in advance for events that do not require badging.

Pre-event activities are designed to enhance FEMA's ability to perform MHU missions. These activities fall into several categories:

1. Activities for all contract awardees
2. Activities for one or more small business awardees
3. Activities for one or more full and open awardees
4. Other activities as assigned

Some pre-event activities are issued to contractors as either part of the minimum guarantee and shall not be included as part of contractor proposals, or as statements of objectives that will be subject to task order competition. Pre-event activities that are part of the minimum guarantee (see table below) include items such as attending training and exercise events; obtaining business licenses; and employee security clearances. Pre-event activities that are not part of the minimum guarantee and are subject to task order competition are developmental tasks such as database development of commercial parks or development of training.

Pre-event activities will be awarded as follows:

1. Annually as part of the contract guaranteed minimum
2. Task Order Statement of Objectives that are subject to best value task order competition

Pre-event activities that are part of the guaranteed minimum are funded as NTE CLINs. The contractor shall be responsible for meeting the minimum requirement. The contractor, at their option and expense, can exceed the minimum requirement. The NTE CLINs include all expenses.

The matrix below identifies the characteristics of each type of pre-event activity.

Activity	Event Type	Awardee Type	Minimum Required Staff to Participate	Scheduled Location	Guaranteed Minimum or TO Competition	CLIN	Optional for FEMA based on Acceptable TO Proposals
Tabletop/Field Exercises/Annual Meeting	Exercise	All	5 for F&O 3 SBH&I 3 SBM&D	TBD	Guaranteed Minimum	0010AA	No
HOMES/Sunflower Asset Management System (SAMS) Training	Training	All	5 for F&O 4 SBH&I 4 SBM&D	Emmitsburg, MD	Guaranteed Minimum	0010AC	No
Staff Preparedness	Badging	All	15 for all contractors	Washington, DC	Guaranteed Minimum	0010AD	No
Screening of Potential Subcontractors	Pre-Event Activity	F&O Only	N/A	Contractor Location (No Travel is included)	Guaranteed Minimum	0010AE	No
Enhancements to FEMA Guides	Pre-Event Activity	All	N/A	Contractor Location (No Travel is included)	Guaranteed Minimum	0010AG	No

Safety Plan Development	Pre-Event Activity	All	N/A	Contractor Location (No Travel is included)	Guaranteed Minimum	0010AI	No
Licenses	Pre-Event Activity	All	N/A	As required to get licenses	Guaranteed Minimum	0010AK	No
Site Inspection Training	Training Development	F&O	N/A	Single TO award	TO competition	0010AM	Yes
Installation (Haul and Install) Training	Training Development	F&O	N/A	Single TO award	TO competition	0010AO	Yes
Maintenance Training	Training Development	F&O	N/A	Single TO award	TO competition	0010AQ	Yes
Deactivation Training	Training Development	F&O	N/A	Single TO award	TO competition	0010AS	Yes
Commercial Park Expansion/Group Site – Site Inspection/Site Feasibility/Site Design Training	Training Development	F&O	N/A	Single TO award	TO competition	0010AU	Yes
Commercial Park Expansion/Group Site – Construction Oversight	Training Development	F&O	N/A	Single TO award	TO competition	0010AW	Yes

MHU Installation Training – Physical Installation	Training Support	SBH&I	N/A	Single TO award	TO competition	0010AY	Yes
MHU Deactivation Training	Training Support	SBM&D	N/A	Single TO award	TO competition	0010BA	Yes
License and Non-Installation Requirements	Database Development	F&O	N/A	Single TO award	TO competition	0010BC	Yes
Transportation Requirements	Database Development	F&O	N/A	Single TO award	TO competition	0010BE	Yes
Potential Sub-contractors	Database Development	F&O	N/A	Single TO award	TO competition	0010BG	Yes
Installation Requirements Database Development	Database Development	F&O	N/A	Single TO award	TO competition	0010BI	Yes
Installation Requirements Database Comparison	Database Comparison	F&O	N/A	Single TO award	TO competition	0010BK	Yes
Commercial Park Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BM	Yes

Recreational Vehicle Park Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BO	Yes
State Land Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BR	Yes
Federal Land Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BT	Yes
Electrical Utility Provider Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BV	Yes
Sewer Utility Provider Database	Database Development	F&O	N/A	Single TO award	TO competition	0010BX	Yes
Water Utility Provider Database	Database Development	F&O	N/A	Single TO award	TO competition	0010CA	Yes
Frost Line Database	Database Development	F&O	N/A	Single TO award	TO competition	0010CC	Yes

C.14.1.1 Training and Exercise Events

FEMA will conduct several training and exercise events throughout the year. The contractors shall attend the training and exercise events as required in Section F, or by task order. During the training and exercise events FEMA and the contractors will review material relevant to the contract and conduct exercises to ensure that FEMA and the contractors are postured to execute MHU missions quickly and efficiently. Vendors will require advanced preparation for select events as outlined in sub-sections below. Training and exercise events may be conducted in Washington, DC; Selma, AL; Cumberland, MD; Emmitsburg, MD; or other locations specified in a task order. Training and exercise events will include mission table top exercises and field training in areas such as MHU installation, MHU maintenance, site inspection, and/or MHU deactivation. The contractors will be reimbursed for Training and Exercise event attendance using the rates established under this contract for FTOM employees. FEMA shall provide at a minimum 30 days' notice prior to training and exercise events.

C.14.1.1.1 Training and Exercise Event Participation/Travel

FEMA will provide funding for a limited number of contractor staff for each awardee type to participate in training and exercise events. FEMA will provide a fixed budget for each training and exercise event. The contractors may use this budget for any combination of labor and travel as long as the contractor has the minimum number of attendees required. The contractors are welcome to bring additional staff to these events at their own expense, on a space available basis. Additional staff must receive prior approval from the COR, in writing.

C.14.1.2 Field Operations/Mission Readiness Exercise Events and Training

C.14.1.2.1 Tabletop Exercise/Annual Meeting

Participation in Field Operations/Mission Readiness Exercise Events is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and any option year that is awarded.

Exercise events will include FEMA provided scenarios. FEMA will provide the scenarios prior to the exercise tailored for each type of awardee. Attendees shall come prepared to discuss the initial approach to the mission as well as ongoing operations. FEMA may, at the Agency's option, provide additional information during the exercise portion of the event for contractor action and response.

During the training portion of the event, the contractors and FEMA will discuss portions of the contract and concepts to improve the contract and operational issues. The results of these

conversations may, at the Agency's discretion, be proposed as modifications to the contract to improve response to the manufactured housing needs of disaster survivors.

Payment for work completed under this section is CLIN # 0010AA.

C.14.1.2.2 HOMES Training

Participation in HOMES Training is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and any option year that is awarded. FEMA will schedule at least one 3-4 day training session annually.

The Housing Operations Management Enterprise System also known as HOMES is the system of records for FEMA's housing missions authorized under Section 408 of the Stafford Act as amended. Some of the basic facts regarding HOMES are:

- HOMES was implemented for accessing and utilizing web based software during Pre-Placement Interviews to determine eligibility for a FEMA Manufactured Housing Unit under the 408 Direct Assistance Category.
- HOMES provides concise information required for HQ and the field to determine policy, budgets, and resource management.
- HOMES provides a single, consistent, uniform tool for Regions to process their Direct Assistance Housing Mission.
- HOMES allows FEMA & contractor access to the system online through the FEMA Intranet assuring a timely and cost effective response to applicant needs.

The HOMES system allows for contractor use while protecting sensitive applicant information, under controlled queues. The contractors are assigned user rights and specific responsibilities according to their designated role(s) within the HOMES system contingent upon the contract requirements. Each queue can be set up to allow for FEMA and contractor access, the following are the queues for contractor use:

- Site Mapping
- Work Order
- Pre-placed Staging
- Staging
- Maintenance Work Order
- Pre-Placed Work Order

FEMA will provide training for appropriate contractor staff (who has been adjudicated with a successful background check) in the use of HOMES as part of the pre-disaster activities. It is anticipated that the training will be conducted at FEMA's facility in Emmetsburg, MD.

FEMA anticipates that those trained in HOMES will have the position title of Administrative Assistant (AA). Additional HOMES training may be given at FEMA field offices in conjunction with disaster operations at the Government's discretion.

Contractors are authorized the following staff to attend HOMES training as part of Training, Exercise and Pre-event Activities:

- Full and Open Offerors – four persons
- Small Business Set Aside Offerors (H&I and M&D) – three persons

Payment for work completed under this section is CLIN # 0010AC.

C.14.1.2.3 Sunflower Asset Management System (SAMS) Training

Participation in SAMS Training is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and any option year that is awarded. FEMA will schedule at least one 3-4 day training session annually.

SAMS is the system of records for FEMA's accountable property (personal property/asset management system). MHUs are accountable property. SAMs is designed to record information about MHUs including when the property was acquired and who has custody of the property. In addition, SAMS manages maintenance records for accountable property.

Some of the basic facts regarding SAMS are:

- SAMS is a database that is built on the Oracle platform
- SAMS is the DHS system Department wide system of record
- SAMS can be used to track maintenance of assets
- SAMS can accommodate planned periodic maintenance and unscheduled maintenance events
- SAMS provides concise information required for HQ and the field to determine policy, budgets, and resource management
- SAMS provides a single, consistent, uniform tool for asset management

SAMS allows FEMA & contractor access to the system online through the FEMA Intranet assuring a timely and cost effective response to applicant needs

SAMS allows for contractor use while protecting sensitive information. The contractors are assigned user rights and specific responsibilities according to their designated role(s) within SAMS contingent upon the contract requirements. Each queue can be set up to allow for FEMA and contractor access, the following are the queues for contractor use:

- Property Location (Storage, Staging, Installed, Deactivated, etc.)
- Property Condition
- Scheduled Maintenance
- Un-Scheduled Maintenance
- Property Custodian
- Property Transfer Request
- Deactivation Status
- Deactivation Condition

FEMA will provide training for appropriate contractor staff (who has been adjudicated with a successful background check) in the use of SAMS as part of the pre-disaster activities. .

FEMA anticipates that those trained in SAMS will have the position title of Administrative Assistant (AA). Additional SAMS training may be given at FEMA field offices in conjunction with disaster operations at the Government's discretion.

The contractors are authorized the following staff to attend SAMS training as part of Training, Exercise and Pre-event Activities.

- Full and Open Offerors – four persons
- Small Business Set Aside Offerors (H&I and M&D) – three persons

Payment for work completed under this section is CLIN # 0010AC.

C.14.1.2.4 Staff Preparedness

Participation in Staff Preparedness is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and any option year that is awarded.

Staff preparedness applies only to staff that will work in the field as part of a contractor's response to a task order. The contractors shall be funded to allow staff to meet the requirements of HSPD-12. The contractors shall propose staff based on the number of simultaneous missions (see C.1.18), allowing for limited redundancy for staff that may not be available.

Each staff member will be allocated up to one week to complete the paperwork and travel to FEMA HQ to receive their FEMA badge. Travel expenses will be reimbursed at Joint Federal

Travel Regulation rates. Rental cars will not be authorized for travel to FEMA HQ in Washington, DC.

For full and open awardees, the contractor can be reimbursed for up to 15 staff to complete the HSPD-12 process.

For small business set aside contractors (H&I and M&D), FEMA will allow the contractor to be reimbursed for up to eight staff to complete the HSPD-12 process.

Staffing over and above the numbers listed above shall be submitted to the COR for review and approval. In most cases, additional badging will occur in the field.

Payment for work completed under this section is CLIN # 0010AD.

C.14.1.2.5 Screening of Potential Subcontractors

Participation in Screening of Potential Subcontractors is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and any option year that is awarded.

The screening of subcontractors applies to businesses that may be required to provide a contractor with material, personnel, or service support on short notice, as required to execute contract requirements as specified in Section C.1.18. The contractors may perform these required screenings twice annually; once in the spring and again in the fall. The contractors may utilize up to three staff members and three business days per screening event. At the conclusion of each screening event, each contractor will submit a listing of each potential subcontractor screened, along with the type of material, personnel, or service support each would provide and related CLINS.

The contractors are required to submit reports as specified in Section F. This activity and associated reports are proprietary to each contractor.

Payment for work completed under this section is CLIN # 0010AE.

C.14.1.2.6 Enhancements to FEMA Guides

Enhancements to FEMA Guides are part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and may be exercised in any option year that is awarded.

As part of the Government furnished information provided to contractors who perform manufactured housing unit missions, FEMA has developed a series of guides. The guides include but are not limited to the “FEMA MHU Field Installation Inspection Guide”, the “FEMA Site Inspection Guide”, the “FEMA Deactivation Guide”, and the “FEMA Maintenance Guide”. The

contractors shall review and provide enhancements to the guides. Enhancements shall include detailed architectural/engineering drawings of items that need to be specific such as stairs, ramps and blocking utility connections. Enhancements shall be stamped by licensed architects/engineers. Other items that can be included in the enhancements are: photos, drawings or text descriptions that describe or illustrate proper or improper practices. The enhancements shall be provided to FEMA with no restriction on their use. FEMA will include each contractor's specific documents in a supplement for that contractor and may consider adding the enhancements to the Agency's overall guides.

During the base year of the contract, contractors shall review and provide substantive written feedback to the guides. This feedback is due to the CO/COR within 90 days after contract award.

When the contractor is notified of FEMA's intent to exercise an option, the contractor shall have 15 days to provide FEMA with a proposal for FEMA Guide enhancement for the option year. The proposal shall be for a fixed price with a detailed work plan including deliverables, time estimates and labor categories and rates. The deliverable of the annual enhancements are due within 60 days of the start of an option year unless FEMA agrees, in writing, to a longer delivery time frame. After review of proposals and approval, updates to the guides may be exercised at the government's discretion.

All guide enhancements shall be property of FEMA and shall be shared with all contractors after FEMA reviews and incorporates the enhancements.

Payment for work completed under this section is CLIN # 0010AG.

C.14.1.2.7 Safety Plan Development

A safety plan for typical MHU installation is required as part of the contractor's Safety Plan Development is part of the guaranteed minimum for this contract. Funding shall be included as part of the base year and may be exercised in any option year that is awarded.

FEMA requires that all contractors have appropriate Safety Plans based on the type of installation. All contractors shall have a general Safety Plan that meets the needs of a typical MHU installation.

Work requiring event-specific safety plans include MHU installation on difficult sites or construction for commercial park expansion or group site. A Safety Plan that is specific to the installation of an MHU on a difficult site shall be developed as appropriate. Difficult site is defined by actual field conditions that exceed basic installation prevent the installation of an MHU during a site inspection, which would require equipment typically not used. Full and Open

contractors shall also have site specific plans for any construction related to commercial park expansion or group sites.

In order to improve efficiency, the contractors shall be allowed to submit, as part of pre-event activities, a general Safety Plan for typical MHU installations. The Safety Plan shall be developed in accordance with U.S. Army Corps of Engineers Safety Manual EM 385-1-1. This safety manual shall be written in such a way that it will be easily adaptable to location specific general requirements as well as easily adapted to use for difficult site installations.

The Safety Plan developed by Full and Open contractors shall also be developed in such a way as to provide the foundation for the safety manual necessary for construction related to commercial park expansion or group sites.

The safety manual shall be submitted in accordance with the requirements in Section F: Deliveries or Performance, Section F.6, Area #57.

Payment for work completed under this section is CLIN # 0010AI.

C.14.1.3 Licenses

Licensing is part of the guaranteed minimum for this contract. Funding will be included as part of the base year and any option year that is awarded.

In addition to the identification of licenses and other business operations requirements, contractors may need to have licenses for specific states. FEMA will fund contractors to obtain required licenses. Funding may include labor and travel if needed. Contractors shall prepare fixed budgets for this task. If a contractor, or contractor's employee, is not able to meet the licensure requirements initially, FEMA will not reimburse contractors for a repeated license process. Funds will also be made available during option years for license renewal.

Payment for work completed under this section is CLIN # 0010AK.

C.14.1.4 Training Development

Training development task order competition is reserved for Full and Open contractors unless otherwise specified.

The purpose of all training modules is to enhance FEMA's ability to respond quickly to the requirement for an MHU mission by ensuring that FEMA staff and contractor employees (including subcontractors) have a clear understanding of the contract requirements.

Awarded training development will be conducted as part of base year activities. The contractor proposals for training development shall include not only initial development but also follow on activities for each contract option year to include lessons learned from both the training activity and MHU missions.

The contractors awarded a task order to develop training shall be prepared to present that training at a FEMA training and exercise event. This shall be included in the cost to develop the training. Additionally, FEMA shall have the option to have additional task orders for the delivery of the training when needed. All training developed shall be property of FEMA and shall be made available to all contractors.

The following Statement of Objectives will be subject to task order competition, open only to awardees of the Log HOUSE contract. After the Log HOUSE contract is awarded, Full and Open contractors shall submit proposals for the pre-event activities designated as "Task Order Statement of Objective (TO-SOO)." The contractors shall submit individual proposals for each TO-SOO. All of the TO-SOOs are designed to provide support to FEMA's MHU missions and the Log HOUSE contract. The SOOs individually provide the Government's overall objectives for each TO. Offerors shall use the SOO, an understanding of the mission requirements and the benefits of having the information that is the subject of the TO-SOO together with other applicable portions of this RFP, as the basis for preparing their proposal. The Offeror shall ensure all aspects of the SOO are addressed.

The proposal shall be a Performance Work Statement (PWS) including work breakdown, schedule, deliverables, quality plan and a fixed price cost proposal. The PWS shall specify in clear, understandable terms the work to be done in developing or producing the goods to be delivered or services to be performed by the contractor. Preparation of an effective PWS requires both an understanding of the goods or services that are needed to satisfy a particular requirement and an ability to define what is required in specific, performance based, and quantitative terms. The Offeror's understanding of both required goods/services and work effort required to accomplish shall be fully demonstrated in the Offeror's proposed Contract Work Breakdown Structure (CWBS), PWS, and Contract Data Requirements List (CDRL).

The Offeror shall use his proposed PWS to prepare a CDRL including appropriately tailored data item description references. The requirements listed below (if any) are known minimum Government data requirements. The Offeror may include additional data requirements. All data requirements shall be traceable to specific tasks defined in the contractor's PWS, the MHU mission and the Log HOUSE contract. Requirements will be provided at the time of the TOPR

FEMA will use the following Evaluation Factors for Award of the TO-SOO:

(1) Evaluate the Offeror's ability to successfully achieve the SOO objectives,

(2) Ensure a sound approach is proposed, and

(3) Verify that all requirements can be met.

The Offeror's proposed CWBS, PWS, and CDRL will be evaluated as critical elements in assessing the Offerors understanding of both required goods/services, and work effort required to accomplish them.

C.14.1.4.1 Section 508 Compliance

All training material and databases developed for the Log HOUSE contract and procured through any TO-SOO shall meet the applicable accessibility standards at 36 CFR 11 94. This regulation (36 CFR 1194) implements Section 508 of the Rehabilitation Act of 1973, as amended, and is viewable at http://www.section508.gov.

The contractor shall support the Government in its compliance with Section 508 throughout the development and implementation of the work to be performed. Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d) requires that when Federal agencies develop, procure, maintain, or use electronic information technology, and Federal employees with disabilities have access to and use of information and data that is comparable to the access and use by Federal employees who do not have disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.

C.14.1.4.2 Training Development – Site Inspection

Training Development – Site Inspection will be subject to task order competition. The objective of the training material is to enhance attendees' understanding of the subject material. Required deliverables shall include: presentation material; classroom exercises; field exercises; instructor manual; and student manual. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the Log HOUSE contract.

Site Inspections make a determination as to the usability of a site to install an MHU(s). This is the first step in the disaster housing utilization life cycle of the MHU. Site Inspections for individual MHU installation are divided between private sites (sites that are adjacent to a private residence or on privately owned land not used as a commercial manufactured home park) and commercial parks (an existing facility in commercial operation which leases land to owners of manufactured homes for the purpose of allowing the manufactured home owner to reside in the manufactured home).

Training shall be designed to demonstrate contract site inspection requirements. Training shall also include not only a feasible site inspection but what issues can make a site infeasible and other site related outcomes.

Proposals for site inspection training development can be either individually for each type of site or a combined single training for both types of site inspections.

Payment for work completed under this section use CLIN #0010AM.

C.14.1.4.3 Training Development – Installation (Haul and Install)

Training Development – Installation (Haul and Install) will be subject to task order competition. Contractors submitting proposals for the Log HOUSE contract SHALL NOT submit proposals for training development. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the Log HOUSE contract.

Training shall be designed to demonstrate contract installation requirements. Training shall also include items that are not proper as related to the contract and applicable Federal, state and local codes.

Payment for work completed under this section use CLIN #0010AO.

C.14.1.4.4 Training Development – Maintenance

Training Development – Maintenance will be subject to task order competition. The contractors submitting proposals for the Log HOUSE contract SHALL NOT submit proposals for training development. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the Log HOUSE contract:

- Training shall be designed to demonstrate contract maintenance requirements and include the various types of maintenance categories.
- Training shall also include items that must be addressed as part of the PMIR visit.

Payment for work completed under this section use CLIN #0010AQ.

C.14.1.4.5 Training Development – Deactivation

Training Development – Deactivation will be subject to task order competition. The contractors submitting proposals for the Log HOUSE contract SHALL NOT submit proposals for training development. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the Log HOUSE contract.

Training shall be designed to demonstrate contract deactivation requirements and issues that may be encountered during deactivation.

Payment for work completed under this section use CLIN #0010AS.

C.14.1.4.6 Training Development – Commercial Park Expansion/Group Site – Site Inspection/Site Feasibility/Site Design

Training Development – Commercial Park Expansion/Group Site – Site Inspection/Site Feasibility/Site Design will be subject to task order competition. The contractors submitting proposals for the LOGHOUSE contract SHALL NOT submit proposals for training development. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the LOGHOUSE contract.

Training shall be designed to demonstrate the requirements for determining if a piece of land is feasible to be used for commercial park expansion or as a group site. Training shall include all phases of group site development prior to construction.

Payment for work completed under this section use CLIN #0010AU.

C.14.1.4.7 Training Development – Commercial Park Expansion/Group Site – Construction

Training Development – Commercial Park Expansion/Group Site – Construction will be subject to task order competition. The contractors submitting proposals for the Log HOUSE contract SHALL NOT submit proposals for training development. The following Statement of Objectives will be subject to task order competition, open only to Full and Open awardees of the LOGHOUSE contract:

- Training shall be designed to demonstrate the requirements for providing quality control and oversight during the construction phase of Commercial Park Expansion/Group Site Construction project.

  Payment for work completed under this section use CLIN #0010AW.

C.14.1.4.8 Training Support

C.14.1.4.8.1 MHU Installation Training – Physical Installation (Small Business Haul and Install Contractors Only – General Use)

This task will be awarded to one Small Business Haul and Install contractor each time the task is required **UNLESS** the task is required to be conducted at an active disaster where a full and open contractor is performing the haul and install mission.

The contractor shall install an MHU at a FEMA MHSS location (Cumberland MD, or Selma, AL or other locations as required) in accordance with the contract with the exception of specific defects that are identified by FEMA in advance of the installation. This task shall be a full installation that meet the TO requirements and could include several additions such as a power pole with meter loop, multiple types of stairs and a ramp. Other requirements will be provided with the installation task order.

Payment for work completed under this section use CLIN #0010AY.

C.14.1.4.8.2 MHU Deactivation Training (Small Business Maintenance and Deactivation Contractors Only – General Use)

This task will be awarded to a single Small Business Maintenance and Deactivation contractor to perform and explain the deactivation process of an MHU at either FEMA's Cumberland, MD or Selma, AL storage facility. The contractor shall demonstrate a typical deactivation and demonstrate how to provide quality control for a deactivation. The contractor shall provide material that will assist others in understanding a typical deactivation and how they are providing quality control. All materials shall be submitted in advance to FEMA for review.

Payment for work completed under this section use CLIN #0010BA.

C.14.1.5 Pre-Event Database Development

Given the speed with which FEMA and contractors need to respond to an MHU mission, FEMA is examining the development of databases that will gather information that can support missions through the identification of requirements and assets.

Pre-event databases will be developed by Full and Open awardees. These databases will become FEMA's property and will be shared by all awardees. All Pre-Event Database Development tasks below will be subject to task order competition. Contractors submitting proposals for the LOGHOUSE contract SHALL NOT submit proposals for database development.

Requirements shall include initial development and annual maintenance for any option year that FEMA exercises.

C.14.1.5.1 Pre-Event Database Development – License and Non-Installation Requirements

Each state has different requirements for the installation of manufactured homes. The qualification requirements and the necessary steps to obtain these various licenses are different from state to state. Additionally, some states have varying restrictions on the types of licenses an entity can hold. From an H&I license perspective, some states require the person or company to

attend a training course which may be offered once or twice a year. The contractors shall identify the various types of licenses required to conduct a Log HOUSE mission within the 48 contiguous states and the District of Columbia (business, General contractor, Haul and Install, etc.), the requirements to obtain the licenses, the period that licenses are valid, and the renewal requirements. Additionally, the contractor shall identify reciprocity for each type of license and whether the prime contractor and/or the subcontractor is required to hold the license.

License types can include:

- Entity Business licenses (48 states)(CONUS)
- GC licenses by State that require the entity to have a license along with the local PE
- H&I licenses by State that require more than 48 hours to obtain or require an on-site training course or other travel to the State to obtain license

Payment for work completed under this section use CLIN #0010BC.

C.14.1.5.2 Pre-Event Database Development – Transportation Requirements

Each state has different requirements for the installation of manufactured homes. This database will identify transportation requirements for the 48 contiguous states and the District of Columbia.

- State DOT permits
- Hours of Operations for transportation of MHUs
- Waiver process
- Contact Office

Payment for work completed under this section use CLIN #0010BE.

C.14.1.5.3 Pre-Event Database Development – Potential Sub-contractors

The contractors shall create, manage, and maintain a database of potential subcontractors by state (large, small and disadvantaged businesses) to support the various functional requirements of a Log HOUSE mission. The database would help track required availability, licensure, small business resources/capabilities, etc. The contractor must periodically gather and validate subcontractors' availability and commitment of resources, within given deadlines, and confirm valid licensure.

Payment for work completed under this section use CLIN #0010BG.

C.14.1.5.4 Pre-Event Database Development – Installation Requirements Database

C.14.1.5.4.1 Pre-Event Database Development – Installation Requirements Database Development

The contractors shall create, manage, and maintain a database of requirements for installing manufactured homes in the 48 contiguous states and the District of Columbia. The database shall identify and collect MHU installation requirements for each state or local entity that has specific requirements.

Payment for work completed under this section use CLIN #0010BI.

C.14.1.5.4.2 Pre-Event Database Development – Installation Requirements Database Comparison

The contractors shall compare each installation requirement identified in Section C.14.1.9.4.1 to the Log HOUSE requirements and identify any differences that would require an amendment to the Log HOUSE contract.

Payment for work completed under this section use CLIN #0010BK.

C.14.1.5.4.3 Pre-Event Database Development – Commercial Park Database

The contractors shall create, manage, and maintain a database of requirements for installing manufactured homes in the 48 contiguous states and the District of Columbia. The database shall identify manufactured home commercial parks for each state or local entity that has specific requirements. Gather the requirements to include amperage at the pad, size of pad, and size of other utility infrastructure.

Payment for work completed under this section use CLIN #0010BM.

C.14.1.5.4.4 Pre-Event Database Development – Recreational Vehicle Park Database

The contractors shall create, manage, and maintain a database of requirements for installing manufactured homes in the 48 contiguous states and the District of Columbia. The database shall identify recreational vehicle parks for each state or local entity that has specific requirements. Gather the requirements to include amperage at the pad, size of pad, seasonal operations, and size of other utility infrastructure.

Payment for work completed under this section use CLIN #0010BO.

C.14.1.5.4.5 Pre-Event Database Development – State Land Database

The contractors shall create, manage, and maintain a database of requirements for installing manufactured homes in the 48 contiguous states and the District of Columbia. The database shall identify state/local for each state or local entity that has could be used for a group site.

Payment for work completed under this section use CLIN #0010BR.

C.14.1.5.4.6 Pre-Event Database Development – Federal Land Database

The contractors shall create, manage, and maintain a database of requirements for installing manufactured homes in the 48 contiguous states and the District of Columbia. The database shall identify state/local for each state or local entity that has could be used for a group site.

Payment for work completed under this section use CLIN #0010BT.

C.14.1.5.5 Pre-Event Database Development – Utility Provider Database

C.14.1.5.5.1 Pre-Event Database Development – Electrical Utility Provider Database

The contractors shall create, manage, and maintain a database of requirements for electrical utility providers. The database shall identify any specific equipment, regulations or installation requirements for each provider. The database shall also include any specific requirements or bans that may affect an MHU mission.

Payment for work completed under this section use CLIN #0010BV.

C.14.1.5.5.2 Pre-Event Database Development – Sewer Utility Provider Database

The contractors shall create, manage, and maintain a database of requirements for sewer utility providers. The database shall identify any specific equipment, regulations or installation requirements for each provider. The database shall also include any specific requirements or bans that may affect an MHU mission.

Payment for work completed under this section use CLIN #0010BX.

C.14.1.5.5.3 Pre-Event Database Development – Water Utility Provider Database

The contractors shall create, manage, and maintain a database of requirements for electrical utility providers. The database shall identify any specific equipment, regulations or installation requirements for each provider. The database shall also include any specific requirements or bans that may affect an MHU mission.

Payment for work completed under this section use CLIN #0010CA.

C.14.1.5.5.4 Pre-Event Database Development – Frost Line Database

The contractors shall create, manage, and maintain a database identifying the frost line depth by the appropriate political or geographic subdivisions.

Payment for work completed under this section use CLIN #0010CC.

C.14.2 Determination of Security Requirements

FEMA has determined the security requirements for this contract based on the descriptions of contractor personnel positions, functions, and access requirements as set forth in Section J, Attachment J.45. Security requirements are based on contractor personnel's positions, functions, and access requirements. The contractor is responsible for identifying any errors or omissions in Attachment J.45 prior to acceptance of this contract and shall be responsible for any additional expenses or delays resulting from conforming security requirements to contractor personnel positions, functions, and access requirements not accurately stated in Attachment J.45.

Failure to comply with these requirements may delay the completion of background investigations and adjudications. Note that any delays in this process, which are not caused by the Government, do not relieve the contractor from performing under the terms of the contract.

The following clauses are incorporated into this contract by reference:

1. The "Personal Identity Verification of Contractor Personnel" clause from the Federal Acquisition Regulation, 48 C.F.R. § 52.204-9.

2. The "Contractor employee access" clause, with Alternative I, from the Homeland Security Acquisition Regulation, 48 C.F.R. § 3052.204-71.

C.14.2.1 Background Investigations

All contractor personnel who require access to DHS or FEMA information systems, routine access to DHS or FEMA facilities, or access to sensitive information, including but not limited to Personally Identifiable Information (PII), shall be subject to a full background investigation commensurate with the level of the risk associated with the job function or work being performed. FEMA's Personnel Security Division (PSD) will determine the risk designation for each contractor position by comparing the functions and duties of the position against those of a same or similar Federal position, applying the same standard for evaluating the associated potential for impact on the integrity and efficiency of Federal service.

C.14.2.1.1 Low Risk without Information System Access

The contractor personnel occupying positions or performing functions with a Low Risk designation and who do not require access to DHS or FEMA information systems shall undergo a National Agency Check with Inquiries (NACI) and a credit check and must receive a favorable adjudication thereof from FEMA PSD prior to performing work under this contract.

C.14.2.1.2 Low Risk with Information System Access

The contractor personnel occupying positions or performing functions with a Low Risk designation and who require access to DHS or FEMA information systems shall undergo a Moderate-Risk Background Investigation (MBI) and must receive a favorable adjudication thereof from FEMA PSD prior to performing work under this contract.

C.14.2.1.3 Moderate Risk

The contractor personnel occupying positions or performing functions with a Moderate Risk designation shall undergo a Moderate-Risk Background Investigation (MBI) and must receive a favorable adjudication thereof from FEMA PSD prior to performing work under this contract.

C.14.2.1.4 High Risk

The contractor personnel occupying positions or performing functions with a High Risk designation shall undergo a Background Investigation (BI) and must receive a favorable adjudication thereof from FEMA PSD prior to performing work under this contract.

C.14.2.2 Background Investigation Process

To initiate the request to process contractor personnel, upon contract award, the contractor shall provide the FEMA Contracting Officer's Representative (COR) with all required information and comply with all necessary instructions to complete Section II of the FEMA Form 121-3-1-6, "Contract Fitness/Security Screening Request". The FEMA COR shall ensure that all other applicable sections of the FEMA Form 121-3-1-6 are complete prior to submitting the form to FEMA PSD for processing. The contractor shall also provide the FEMA COR with completed OF 306, "Declaration for Federal Employment", forms for all contractor personnel.

The contractor personnel who already have a favorably adjudicated background investigation, may be eligible to perform work under this contract without further processing by FEMA PSD if:

- the investigation was completed within the last five years,
- it meets or exceeds the minimum requirement for the position they will occupy or functions they will perform on this contract,

- the contractor personnel have not had a break in employment since the prior favorable adjudication, and
- FEMA PSD has verified the investigation and confirmed that no new derogatory information has been disclosed which may require a reinvestigation.

FEMA PSD will notify the COR of the names of the contractor personnel eligible to work based on prior, favorable adjudication. The COR will, in turn, notify the contractor of the names of the favorably adjudicated contractor personnel, at which time the favorably adjudicated contractor personnel will be eligible to begin work under this contract.

For those contractor personnel who do not have an acceptable, prior, favorable adjudication or who otherwise require reinvestigation, FEMA PSD will issue an electronic notification via email to the contractor personnel that contains the following documents, which are incorporated into this contract by reference, along with a link to the Office of Personnel Management's Electronic Questionnaires for Investigation Processing (e-QIP) system and instructions for submitting the necessary information:

- Standard Form 85, "Questionnaire for Non-Sensitive Positions" (for Low Risk ONLY)
- Standard Form 85P, "Questionnaire for Public Trust Positions" (for Moderate Risk and High Risk)
- Optional Form 306, "Declaration for Federal Employment"
- FD Form 258, "Fingerprint Card" (2 copies)
- DHS Form 11000-6, "Conditional Access to Sensitive But Unclassified Information Non-Disclosure Agreement"
- DHS Form 11000-9, "Disclosure and Authorization Pertaining to Consumer Reports Pursuant to the Fair Credit Reporting Act"

FEMA PSD will only accept complete packages consisting of all of the above documents, except for the Standard Form 85 and Standard Form 85P, which must be completed electronically through the Office of Personnel Management's e-QIP system. The contractor is responsible for ensuring that all contractor personnel timely and properly submit all required background information.

Once contractor personnel have properly submitted the complete package of all required background information, FEMA's Personnel Security Division, at its sole discretion, may grant contractor personnel temporary eligibility to perform work under this contract prior to completion of the full background investigation if the Personnel Security Division's initial review of the contractor personnel's background information reveals no issues of concern. In such cases, FEMA's Personnel Security Division will provide notice of such temporary eligibility to the COR who will then notify the Prime Contractor, at which time the identified

contractor personnel will be temporarily eligible to begin work under this contract. Neither the Prime Contractor nor the contractor personnel has any right to grant temporary eligibility. The grant of such temporary eligibility shall not be considered as assurance that the contactor personnel will remain eligible to perform work under this contract upon completion of and final adjudication of the full background investigation.

Upon favorable adjudication of the full background investigation, FEMA's Personnel Security Division will update the contractor personnel's security file and take no further action. In any instance where the final adjudication results in an unfavorable determination FEMA's Personnel Security Division will notify the contractor personnel directly, in writing, of the decision and will provide the COR with the name(s) of the contractor personnel whose adjudication was unfavorable. The COR will then forward that information to the contractor. The contractor personnel who receive an unfavorable adjudication shall be ineligible to perform work under this contract. Unfavorable adjudications are final and not subject to review or appeal.

C.14.2.2.1 Continued Eligibility and Reinvestigation

Eligibility determinations based on a NACI, MBI or BI are valid for five years from the date that the investigation was completed and closed. The contractor personnel required to undergo a background investigation (NACI, MBI, or BI, as required) to perform work under this contract shall be ineligible to perform work under this contract upon the expiration the background investigation unless and until the contractor personnel have undergone a reinvestigation and FEMA's Personnel Security Division has renewed their eligibility to perform work under this contract.

C.14.2.2.2 Exclusion by Contracting Officer

The Contracting Officer, independent of FEMA's Personnel Security Division, may direct the contractor to exclude personnel from working on this contract. Any contractor found or deemed to be unfit or whose continued employment on the contract is deemed contrary to the public interest or inconsistent with the best interest of the agency.

C.14.2.2.2.1 Contracting Officer's Exclusion

The contractor shall not allow any person who is listed on the sex offender registry of any state to have direct contact with any disaster survivor while in the contractor's employ or the employ of any subcontractor. This shall include conducting site inspections on private sites or commercial parks; installing MHUs on private sites or in commercial parks, performing maintenance or maintenance inspections on any FEMA MHU or within any FEMA group site, or performing any task related to the deactivation of an MHU. Additionally, contractor or subcontractor employees who are on any state sex register shall not work on any FEMA group

site construction if any part of the group site has been turned over to FEMA whether occupied or not.

C.14.2.3 Facility Access

The contractor shall comply with FEMA Directive 121-1 "FEMA Personal Identity Verification Guidance," FEMA Directive 121-3 "Facility Access," and FEMA Manual 121-3-1 "FEMA Credentialing Access Manual," to arrange for contractor personnel's access to FEMA facilities, which includes, but is not limited to, arrangements to obtain any necessary identity badges for contractor personnel.

The contractor personnel working within any FEMA facility who do not require access to DHS or FEMA IT systems and do not qualify for a PIV Card may be issued a Facility Access Card (FAC). FACs cannot exceed 180 days; all contractors requiring access greater than 180 days will need to qualify for and receive a PIV card before being allowed facility access beyond 180 days. The contractor personnel shall not receive a FAC until they have submitted a FD 258, "Fingerprint Card," and receive approval from FEMA PSD. The contractor personnel using a FAC for access to FEMA facilities must be escorted in critical infrastructure areas (i.e., server rooms, weapons rooms, mechanical rooms, etc.) at all times.

FEMA may deny facility access to any contractor personnel whom FEMA's Office of the Chief Security Officer has determined to be a potential security threat.

The contractor shall notify the FEMA COR of all terminations/resignations within five calendar days of occurrence. The contractor must account for all forms of Government-provided identification issued to contractor employees under a contract (i.e., the PIV cards or other similar badges) must return such identification to FEMA as soon as any of the following occurs:

- When no longer needed for contract performance.
- Upon completion of a contractor employee's employment.
- Upon contract completion or termination.

If an identification card or building pass is not available to be returned, the contractor shall submit a report to the FEMA COR, referencing the pass or card number, name of the individual to whom it was issued, and the last known location and disposition of the pass or card.

The contractor or contractor personnel's failure to return all DHS- or FEMA-issued identification cards and building passes upon expiration, upon the contractor personnel's removal from the contract, or upon demand by DHS or FEMA may subject the contractor personnel and the contractor to civil and criminal liability.

C.14.3 After Action Report

The contractor shall provide FEMA with an After Action Report (AAR) for each task order. AARs are not required for pre-event activity task orders. The AAR shall include a summary of the information contained in the After Action Report and indicate how the report will help improve the performance of future MHU missions. Include a brief overview of the MHU mission, the strengths demonstrated during the mission and areas that require improvement.

Describe each functional area within the mission such as: site inspection; haul and install; maintenance; deactivation; and/or construction. Indicate the dates of each mission function and the total length of the mission. Identify any agencies and/or organizations that were involved. Include the number of participants and location. Provide information about the structure of the mission, as well as the manner in which the mission was carried out.

The report shall analyze parties' performance during the mission, focusing on both the problem areas and successes. Provide any feedback received from any of the participating parties within FEMA and external participants/stakeholders. Outline a recommended plan for implementing improvements to include action items, the party responsible for carrying out each action item and the expected time frame for completion. Include a "Conclusion" section which would briefly summarize the previous sections.

The price of After Action Reports are included as part of the FTOM expenses.

C.14.4 MHU Fire Sprinkler System

FEMA MHUs are equipped with Residential Fire Sprinkler Systems. When an MHU is equipped with a Residential Fire Sprinkler System, the installation of the Residential Fire Sprinkler System shall be included as part of the basic installation of an MHU whether for temporary or permanent use. Residential Fire Sprinkler Systems and all of the necessary components will be provided by the government. The Residential Fire Sprinkler System consist of two primary components - the sprinkler equipped MHU and an external water tank and pump system (TPS). As FEMA is purchasing both the MHUs and the TPS from several vendors, the contractor shall review the installation instruction from the MHU manufacturer and the TPS manufacturer prior to installation. Detailed information is included in the *MHU Fire Sprinkler System Installation, Test, Maintenance, Repair and Deactivation Guide* (Section J, Attachment J.38). Additional detailed information is included in each of the TPS vendor-specific manuals, which include the Darley FMTPS002 Manual (Section J, Attachment J.59), the GEM 2 General TPS Manual (Section J, Attachment J.60) and the General Air New Alarm Bar Installation Addendum (Section J, Attachment J.61), and the GEN 2 TALCO TPS Manual (Section J, Attachment J. 62).

FEMA will provide the current guides; however, it is the contractor's responsibility to ensure that they are using the most current version, which is included in each TPS.

C.14.4.1 Requirements

There are sprinkler requirements for all phases of the MHU lifecycle including: site inspection; installation; maintenance; and, deactivation.

The most current edition of the following National Standards are incorporated by reference into this contract.

- NFPA 501, *Standard on Manufactured Housing*.
- NFPA 501A, *Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities*.
- NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*.
- HUD Code, 42 USC 5403 – *Manufactured Home Construction and Safety Standards*
- In those jurisdictions where the International Residential Code (IRC) has been adopted, IRC Section P2904, *Fire Sprinkler Systems*.
- NFPA 72, *National Electric Code*

C.14.4.1.1 General

FEMA has procured a standalone type wet-pipe residential fire sprinkler system for the MHUs. These systems have been constructed in accordance with NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes* based on the current version at the time of design and manufacture. FEMA does not use multipurpose residential fire sprinkler systems which combines the potable water system with the residential fire sprinkler systems.

One of the key factors in the design of a residential fire sprinkler system is having known water pressure (PSI) and water flow (GPM). Because the location of an MHU is not known until time of award, FEMA will provide MHUs equipped with a TPS to ensure the required water supply. TPS are designed to operate anywhere within the contiguous United States no matter how cold. TPS connect to the MHUs with two separate connections, the first is the water connection which is a flexible hose that is equipped with heat trace and insulation. Depending on the TPS manufacturer the contractor may have to attach the heat trace and/or the insulation during the installation process. The heat trace for the residential fire sprinkler system water connection receives power from the TPS. The second connection is the electrical power connection which uses a standard IEC 60-309. The MHU is equipped with a female plug housed in a Pin and

Sleeve Mechanical Interlock. The TPS is equipped with a cable which is terminated in an IEC 60-309 plug. The entire electrical system has been properly sized and rated.

Sprinkler system and all components are designed, installed and shall be maintained to protect against freeze damage.

- FEMA has prohibited the use of chemical antifreeze solutions in the design of the residential fire sprinkler systems.
- Sprinkler components installed in the MHU shall be entirely inside the actively heated areas of the MHU.
- The water piping, tank, or parts containing or contacting water are installed outside the actively heated areas of the MHU are protected as required by NFPA 13D. Freeze protection designs have been built to meet an exterior temperature of not less than negative 35°F.
- Heat-tracing that is used is specifically UL Listed for use on sprinkler systems for freeze protection. Heat tracing is fully compliant with NFPA 13D §9.1.2(4) and A.9.1.2(4). Heat trace cable is specific to each TPS and is NOT interchangeable. The cable must match the controller in the TPS.

The sprinkler system and all components are designed when installed and maintained in accordance with instruction to protect against tampering and other foreseeable damage.

C.14.5 Event Specific Site Safety and Health Plan

C.14.5.1 Commercial Park Expansion, Group Site Construction and Difficult Single Unit Installation Site Safety and Health Plans

The contractor shall be required to prepare event specific Site Safety & Health Plans (SSHP) in accordance with Section F, Areas #58 and #59. The SSHP which will be reviewed and approved by the Government prior to commencement of any commercial park expansion, group site construction and difficult single unit installation work and shall be in compliance with the applicable portions of U.S. Army Corps of Engineers Manual EM 385-1-1. The contractor shall obtain utility mark-outs prior to any intrusive work and shall ensure proper shielding or deactivation of utilities will be required as necessary. All field and reporting activities will be performed or supervised by properly trained and appropriate professionals, including Professional Engineers, Professional Geologists, Environmental Scientists, and any other designated professionals required under Federal, State or local regulations. If the contractor chooses not to follow EM 385-1-1 then the contractor shall provide justification for deviation(s) to the COR for approval. Manual available at: **http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1_2008Sep_Consolidated_2011Aug.pdf**

Payment for work completed under this section for Commercial Park Expansion is CLIN # 0010CE.

Payment for work completed under this section for Group Site Construction is CLIN # 0010CG.

Payment for work completed under this section for Difficult Single Unit Installation is CLIN # 0010CI.

C.15 Contractor Field Housing

The contractor shall be notified as part of the MHUM SCOPE (Section J, Attachment J.1) or by the CO or COR in writing if the contractor is required to provide field housing. If the contractor is notified in the MHUM SCOPE, the contractor shall be required to have adequate facilities based on the arrival schedule of the contractor's staff (Section J, Attachment J.28). If the contractor is notified after task order award, the contractor shall have one (1) week for the Contractor Field Housing Initiation – Design phase. The Contractor Field Housing Initiation – Mobilization phase and the date of occupancy shall be mutually agreed upon by the contractor and the COR. The contractor shall demobilize the field housing within seven days of notice, or as negotiated, by the Contracting Officer. The contractor shall notify FEMA if contractor field housing is not being used effectively or of any significant changes to occupancy levels within two (2) days. Contractor Field Housing is only to be occupied by contractor staff who are working in the field for FEMA or are managing the contractor field housing site.

C.15.1 Contractor Field Housing Life Cycle Phases

The Contractor Field Housing Life Cycle Phases are: Initiation; Operation; and Demobilization. When the contract is required to submit a proposal for field housing the price proposals shall be broken down as follows: Design; Mobilization; Operation (by week); and Demobilization.

C.15.1.1 Contractor Field Housing Initiation

C.15.1.1.1 Contractor Field Housing Initiation – Design

The contractor shall provide the following items to the CO and COR for each task order proposal as part of the Field Housing Design:

- Location of the field housing site;
- Services provided to the field staff;
- Priced as individual items:
    - Design of the field housing facility;
    - Expenses to build the field housing facility;

- Estimated weekly operating price (including assumptions regarding the size and number of field staff housed as well as flexibility and price differential for different levels [number of people per day] of housing);
- Construction schedule for the field housing facility; and
- Estimated demobilization prices.

The contractor shall implement storm water erosion controls in accordance with Federal, State, and local regulations, including but not limited to obtaining permits, performing all necessary site improvements, and restoring the site to meet or exceed original site conditions. The contractor shall perform all necessary site improvements to establish positive drainage; expand site capacities; create parking and common areas; and perform selective clearing and grubbing in accordance with all Federal, State and local environmental regulations. Additionally, the contractor shall follow EPA Storm Water Best Management Practices. The Contractor Field Housing shall be designed to accommodate all contractor personnel that require housing. The contractor shall provide all the necessary facilities to provide a habitable and safe environment to the contractor personnel that will be housed in these facilities. The contractor is solely responsible for the design of this housing; FEMA review for the housing is only for task order award purposes including price evaluation.

The price to build the contractor Field Housing facility shall include all expenses required to construct the field housing including permits, utility deposits, site work and structures as well as all expenses required to transport, labor, material, equipment and personnel to mobilize.

C.15.1.1.1.1 Ablution

The contractor shall provide potable water supply, showers, hand wash stations, laundry facilities, portable toilets, restrooms and wastewater collection systems at each camp. All water supply equipment shall be rated for potable water supply in accordance with ANSI/NSF 42, 53, & 61 standards and applicable EPA and state and local regulations for potable water. Water systems shall be operated in accordance with all Federal, state and local standards and requirements.

C.15.1.1.1.2 Waste Water

The contractor shall ensure that wastewater from showers, laundry, hand-washing stations, restroom facilities and kitchen facilities shall be collected and properly disposed of.

C.15.1.1.1.3 Solid Waste Collection and Disposal (Dumpsters)

The contractor shall provide all necessary solid waste collection and disposal for the field housing in accordance, EPA 40 CFR 243 and any additional State, and Local regulations at least

once per day. The contractor shall establish recycling programs in accordance with Presidential Executive Order 13423 and have a goal to recycle 35% of waste generated from field housing operations. Items recycled must include at a minimum the following:

- Toner cartridges
- Batteries
- Scrap metal
- Fluorescent light bulbs
- Paper (white paper, mixed paper, newspaper)
- Cardboard
- Aluminum
- Wood pallets
- Plastic
- Glass

Payment for Contractor Field Housing Initiation – Design and subsections is under CLIN #00014AA.

C.15.1.1.2 Contractor Field Housing Initiation – Mobilization

All expenses (except for those identified as design expenses) associated with the start-up of the field housing facility and mobilization of equipment and personnel to use the facility. This includes all expenses required to construct the field housing including permits, utility deposits, site work and structures as well as all expenses required to transport, labor, material, equipment and personnel to mobilize the field housing.

C.15.1.1.2.1 Site Preparation

The contractor shall perform all work necessary for site evaluation and site preparation. The contractor shall make the site ready for placement of all contractor provided equipment and assets. Depending on the site, the contractor may be required to perform site excavation to establish positive drainage. The contractor shall maintain housing on a periodic basis to include brush clearing, grass and brush cutting.

The contractor shall meet requirements based on the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act (ESA), Executive Order 11988: Floodplain Management, Executive Order 12898: Environmental Justice, and other environmental planning and historic preservation laws by following the conditions established through FEMA's environmental and historic preservation (EHP) review. These conditions will be established by FEMA's staff based on the unique characteristics of each site. These include:

- Complying with mitigation measures to reduce the impact to the environment as established by the EHP review (e.g. use of silt fences to reduce sedimentation, use of construction best management practices to reduce air quality issues, appropriate handling, disposition, remediation, or containment of hazardous materials in the project area, etc.).
- Acquiring applicable Federal, State, or local environmental permits required for the project (e.g. Storm Water Pollution Prevention Permit [SWPPP], National Pollution Discharge Elimination System [NPDES] permit, construction permits, Clean Water Act Section 404 for fill, etc.).
- Immediate cease of work and notification to FEMA Regional Environmental Officer (REO) if potential archeological resources are discovered during construction and ground disturbance work.

C.15.1.1.2.2 Mobilization Schedule

The contractor shall provide a Contractor Field Housing Mobilization schedule, which shall include the timeline for all activities required to mobilize the field housing.

Payment for Contractor Field Housing Initiation – Mobilization and subsections is under CLIN # 0014AF.

C.15.1.2 Contractor Field Housing Operation

The contractor Field Housing Operation includes all expenses to operate the field housing for the specific time period required for the number of field housing residents agreed upon. This includes all labor, material, equipment, supplies and services.

The contractor is responsible for providing appropriate facilities so their employees are in a safe, sanitary, and functional environment. The contractor is solely responsible for proposing and choosing what facilities are appropriate. The contractor is also responsible for operating the housing site and meeting applicable codes.

C.15.1.2.1 Operation Schedule

The contractor shall provide a Contractor Field Housing Operation schedule, which shall include the operating hours and timeline for the field housing.

Payment for Contractor Field Housing Operation and subsection is under CLIN # 0014AH.

C.15.1.3 Contractor Field Housing Demobilization

The contractor Field Housing demobilization includes all activities and expenses required to demobilize field housing, clean the site, remove/dispose of all garbage and used materials and return the site to its original condition within the timeframe set forth in the task order.

All associated expenses for time and travel from the disaster incident after contractor field house demobilization must be incorporated in the overall demobilization expenses.

C.15.1.3.1 Demobilization Schedule

The contractor shall develop and present a demobilization plan to the CO within 14 days of occupation of site. The contractor shall demobilize housing, clean the site, remove/dispose of all garbage and used materials and return the site to its original condition within seven days of the demobilization notice. The contractor shall meet any special conditions established in the EHP review process for the return of the site to its original conditions.

Payment for Contractor Field Housing Demobilization and subsection is under CLIN # 0014AI.

C.15.2 Contractor Field Housing Land Lease

FEMA may at that Agency's option choose to lease the land that is needed for field housing. If FEMA does not lease the land, the contractor shall lease the land for the field housing. If FEMA requires the contractor to lease the land for the field housing, the contractor shall negotiate the lease to be as flexible as possible to allow for changes in the lease based on changes in operational requirements.

Payment for work completed under this section is CLIN # 0014AC.

C.15.3 Contractor Field Housing Safety

The Contractor Field Housing shall be kept in compliance with applicable OSHA rules in CFR29 Part 1926 & 1910.142, Environmental Protection Agency (EPA) regulations outlined in 40 CFR and all other local, state and Federal regulatory standards and conditions for safety and health and environmental management. This includes but is not limited to all Local and State Occupational Safety Health and Environmental Management Department regulations, the 2006

International Building Code, 2006 International Fire Code – Chapter 24 and NFPA 101 – Life Safety Code for the occupancies being constructed. The contractor shall be responsible for acquiring all permits and approvals for the services provided. The contractor shall be responsible for meeting manufacturer recommended installation specifications. The contractor shall perform a local code review of the jurisdictional area where the contractor Field Housing is located and implement any requirements determined to be more stringent than the National Codes indicated in this Performance Work Statement.

C.16 Fees for Working on Tribal Land

If work is to be conducted on a Native American Reservation, the following provisions shall apply:

a. The Tribal Employment Rights Office (TERO) (or equivalent) ordinances and regulations apply to contractors working for FEMA on the reservation. TERO ordinances/regulations may be applicable to the contractor performance of the hauling and installation mission for: TERO core-crew employment preference, fees and penalties, reporting, compliance planning and surveillance, hiring.

b. Use Local subcontractors to the maximum extent practicable as applicable to the TERO. Work done on Tribal Land is subject to TERO rules and procedures. The contractor must contact the TERO office prior to initiating work.

Payment for work completed under this section is CLIN # 0015AA.

END OF SECTION C

NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-647-0001

Recreational Vehicles and Recreational Vehicle Parks

Code: 2017 Electrical Code **Date:** January 1, 2019
Section: Article 551

Question 1:
What sections of Article 551 are not enforced by the local electrical inspector in North Carolina?

Answer 1:
All of Parts II, III, IV, and V of Article 551.

Parts II, III, IV, and V of Article 551 regulate the electrical conductors and equipment installed within or on recreational vehicles. The State Electrical Division considers camping trailers, motor homes, recreational vehicles, travel trailers, and truck campers as described in Part I of Article 551 of the 2017 NEC, as also meeting the definitions of the same names as described in Article 1 of Chapter 20 in North Carolina General Statutes establishing the Division of Motor Vehicles.

Before the State Electrical Code can regulate an electrical installation, the Code must first have jurisdiction over the installation. In North Carolina, the State Electrical Code does not possess the authority to regulate the electrical wiring of vehicles, including recreational vehicles as defined in N.C. Gen. Stat. § 20-4.01(32b). The Division of Motor Vehicles of the Department of Transportation is the exclusive agency that enforces the regulations pertaining to vehicles including a vehicle's construction standards.

Question 2:
When remodeling a recreational vehicle, is the addition, modification, repair, or replacement to a component of the manufacturer's original electrical design subjected to any provisions of Article 551.

Answer 2:
No.

As stated above in "Answer 1", the State Electrical Code does not possess the authority to regulate the electrical wiring or any alterations of the manufacturer's original electrical design of vehicles, including recreational vehicles.

Question 3:
Are Part I and VI of Article 551 enforced by the local electrical inspector in North Carolina?

Answer 3:
Yes.

Parts I or VI of Article 551 are concerned with the external environment and listed and labeled electrical equipment within a recreational vehicle park. Neither Parts I or VI of Article 551 have sections that regulate the construction and design of a recreational vehicle itself. Therefore, Parts I or VI of Article 551 are regulated by the State Electrical Code and enforced by the local electrical inspector.

Question 4:
Can a recreational vehicle not regulated by the State Electrical Code be hard wired by a permanent feeder or branch circuit to an electrical system that is regulated by the State Electrical Code?

Answer 4:
No.

If a recreational vehicle becomes a permanent structure and is no longer a vehicle, then the construction provisions of the permanent structure must be permitted, inspected, and comply with all the State Building Codes or be regulated by the NC Manufactured Building Division.

For the State Electrical Division to consider an apparatus a vehicle and not a permanent structure, the apparatus must maintain a standard of mobility. The State Electrical Division considers an apparatus as mobile when such apparatus can connect or disconnect from an external electrical supply system without engaging in the installation or alteration of any electric work, wiring, devices, appliances or equipment that is regulated by the State Electrical Code. Therefore, a vehicle that is not regulated by the State Electrical Code can only physically connect to an external electrical supply system that is regulated by the State Electrical Code by an accessible cord-and-plug.

2017 State Electrical Code (NEC)
Article 551
Recreational Vehicles and Recreational Vehicle Parks

551.2 Definitions. (See Article 100 for additional definitions.)

Recreational Vehicle. A vehicular-type unit primarily designed as temporary living quarters for recreational, camping, or travel use, which either has its own motive power or is mounted on or drawn by another vehicle.

North Carolina General Statutes
Chapter 20.
Motor Vehicles.
Article 1.
Division of Motor Vehicles.

. . .

§ 20-4.01. Definitions.

. . .

(32b) Recreational Vehicle. – A vehicular type unit primarily designed as temporary living quarters for recreational, camping, or travel use that either has its own motive power or is mounted on, or towed by, another vehicle. The basic entities are camping trailer, fifth-wheel travel trailer, motor home, travel trailer, and truck camper. This term shall not include a manufactured home as defined in G.S. 143-143.9(6). The basic entities are defined as follows:
G.S. 20-4.01 Page 10

a. Camping trailer. – A vehicular portable unit mounted on wheels and constructed with collapsible partial side walls that fold for towing by another vehicle and unfold at the campsite to provide temporary living quarters for recreational, camping, or travel use.
b. Fifth-wheel trailer. – A vehicular unit mounted on wheels designed to provide temporary living quarters for recreational, camping, or travel use, of a size and weight that does not require a special highway movement permit and designed to be towed by a motorized vehicle that contains a towing mechanism that is mounted above or forward of the tow vehicle's rear axle.
c. Motor home. – As defined in G.S. 20-4.01(27)k.
d. Travel trailer. – A vehicular unit mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, and of a size or weight that does not require a special highway movement permit when towed by a motorized vehicle.
e. Truck camper. – A portable unit that is constructed to provide temporary living quarters for recreational, camping, or travel use, consisting of a roof, floor, and sides and is designed to be loaded onto and unloaded from the bed of a pickup truck.

NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-647-0001

Park Trailers

Code: 2017 Electrical Code **Date:** January 1, 2019
Section: Article 552

Question 1:
What sections of Article 552 are not enforced by the local electrical inspector in North Carolina?

Answer 1:
All of Parts II, III, IV, and V of Article 552.

Parts II, III, IV, and V of Article 552 regulate the electrical conductors and equipment installed within or on park trailers. The State Electrical Division considers park trailers as described in Part I of Article 552 of the 2017 NEC, as also meeting the definition of a recreational vehicle as described in Article 1 of Chapter 20 in North Carolina General Statutes establishing the Division of Motor Vehicles.

Before the State Electrical Code can regulate an electrical installation, the Code must first have jurisdiction over the installation. In North Carolina, the State Electrical Code does not possess the authority to regulate the electrical wiring of vehicles, including recreational vehicles as defined in N.C. Gen. Stat. § 20-4.01(32b). The Division of Motor Vehicles of the Department of Transportation is the exclusive agency that enforces the regulations pertaining to vehicles including a vehicle's construction standards.

Question 2:
When remodeling a park trailer, is the addition, modification, repair, or replacement to a component of the manufacturer's original electrical design subjected to any provisions of Article 552.

Answer 2:
No.

As stated above in "Answer 1", the State Electrical Code does not possess the authority to regulate the electrical wiring or any alterations of the manufacturer's original electrical design of vehicles, including park trailers.

Question 3:
Can a park trailer not regulated by the State Electrical Code be hard wired by a permanent feeder or branch circuit to an electrical system that is regulated by the State Electrical Code? Does calling the apparatus a "park model" make a difference?

Answer 3:
No.

If a park trailer becomes a permanent structure and is no longer a vehicle, then the construction provisions of the permanent structure must be permitted, inspected, and comply with all the State Building Codes or be regulated by the NC Manufactured Building Division.

For the State Electrical Division to consider an apparatus a vehicle and not a permanent structure, the apparatus must maintain a standard of mobility. The State Electrical Division considers an apparatus as mobile when such apparatus can connect or disconnect from an external electrical supply system without engaging in the installation or alteration of any electric work, wiring, devices, appliances or equipment that is regulated by the State Electrical Code. Therefore, a vehicle that is not regulated by the State Electrical Code can only physically connect to an external electrical supply system that is regulated by the State Electrical Code by an accessible cord-and-plug.

An apparatus called a trailer, park trailer, park model, tiny home, etc., has no bearing on the definitions within the NEC and the Statues. Definitions within the NEC and the Statues define and regulate what is described by such definition regardless of any other titles used to name the apparatus.

2017 State Electrical Code (NEC)
Article 552
Park Trailers

552.2 Definition. (See Articles 100, 550, and 551 for additional definitions.)

Park Trailer. A unit that is built on a single chassis mounted on wheels and has a gross trailer area not exceeding 37 m2 (400 ft2) in the set-up mode.

North Carolina General Statutes
Chapter 20.
Motor Vehicles.
Article 1.
Division of Motor Vehicles.

. . .

§ 20-4.01. Definitions.

. . .

(32b) Recreational Vehicle. – A vehicular type unit primarily designed as temporary living quarters for recreational, camping, or travel use that either has its own motive power or is mounted on, or towed by, another vehicle. The basic entities are camping trailer, fifth-wheel travel trailer, motor home, travel trailer, and truck camper. This term shall not include a manufactured home as defined in G.S. 143-143.9(6). The basic entities are defined as follows:
G.S. 20-4.01 Page 10

a. Camping trailer. – A vehicular portable unit mounted on wheels and constructed with collapsible partial side walls that fold for towing by another vehicle and unfold at the campsite to provide temporary living quarters for recreational, camping, or travel use.
b. Fifth-wheel trailer. – A vehicular unit mounted on wheels designed to provide temporary living quarters for recreational, camping, or travel use, of a size and weight that does not require a special highway movement permit and designed to be towed by a motorized vehicle that contains a towing mechanism that is mounted above or forward of the tow vehicle's rear axle.
c. Motor home. – As defined in G.S. 20-4.01(27)k.
d. Travel trailer. – A vehicular unit mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, and of a size or weight that does not require a special highway movement permit when towed by a motorized vehicle.
e. Truck camper. – A portable unit that is constructed to provide temporary living quarters for recreational, camping, or travel use, consisting of a roof, floor, and sides and is designed to be loaded onto and unloaded from the bed of a pickup truck.