6.0 PROJECT SPECIFIC REQUIREMENTS FORT BRAGG, NC *<VER>*(REV 3.5 – 30 APR 2012)*</VER>*

6.1. GENERAL

The requirements of this paragraph augment the requirements indicated in Paragraphs 3 through 5.

6.2. APPROVED DEVIATIONS

The following are approved deviations from the requirements stated in Paragraphs 3 through 5 that only apply to this project.

6.2.1. 21 Sep 2010 ISEC approved waiver to I3A paragraph 2.4.3.1, which requires CATV demarcation point be located in Telecommunications Room. Ft. Bragg Paragraph 6.4.6.7(a) moves that to mechanical or electrical room.

6.3. SITE PLANNING AND DESIGN

6.3.1. General:

6.3.1.1. Project Specific Requirements: See Attachment J for site features included in this task order/contract.

«SITE_PLANNING»

6.3.1.2. Fort Braggs' strategic goal is to achieve a "sustainable community - meeting the needs of the Soldier today, tomorrow and forever." To achieve this goal, Fort Bragg's philosophy is to apply systematic considerations of environmental impact, energy use, natural resources, economy, and quality of life so the end result is a sustainable community by:

(a) Creating and enhancing sustainable training and urban areas to ensure military readiness and promote compatible growth of the surrounding community

(b) Becoming the model sustainable military community by using sustainable principles throughout the life cycle of all facilities and supporting infrastructure

(c) Achieving zero waste through acquisition and management of materials and commodities which throughout their lifecycle creates no additional waste nor requires resources for disposal

(d) Supplying reliable services and infrastructure with no negative impacts while aggressively reducing overall demand.

(e) Building a sustainable world-class ground transportation network providing seamless transition between multiple modes of travel while reducing harmful emissions

(f) Creating a culture which fosters sustainable life style to enhance the quality of life of the Fort Bragg community. This encompasses the social, mental, physical and spiritual well-being of its members.

(g) Minimize environmental impacts to natural resources using strategic planning and sustainable design to reduce project footprint ("clearing limits").

6.3.1.3. Fort Bragg's sustainable community objectives are energy savings, water savings/reuse; low-emitting, nontoxic materials, land/habitat loss minimization, reusable/recyclable building materials, tie in to "community" sustainability features (e.g. continuance of bikes lanes/walking paths), turf areas/water intensive landscapes minimization, use of native plants, and use of low-impact development strategies for stormwater management.

6.3.1.4. Design Principles

(a) Plan and design site in a sustainable manner in accordance with all applicable references. The planning and design shall incorporate appropriate measures to address endangered, threatened, and special concern species; energy efficiency and renewable generation; materials reuse; multimodal transportation; native wildlife habitat protection and restoration; pollution prevention; public health and safety; water resources protection and restoration; and water use efficiency.

SAMPLE

(b) Sustainable site plan, planning, design and development will address the need to conserve green space, preserve remnant old-growth trees, protect endangered species and wetlands, achieve maximum on-site stormwater infiltration, provide for greenways and link corridors of existing natural habitat for recreational value, quality of life and for wildlife/plants conservation. Sustainable site planning should include green space planning, and corridor development for recreational use and wildlife benefits Construction footprint shall minimize disturbance to soils to the maximum extent practicable in support of the installation sustainability goals.

(c) Base site design on the Beaux-Arts principles of balance, axial arrangements, symmetry, and site lines.

(d) Plant native trees, shrubs and grasses in accordance with Fort Bragg's plant list palette. See Appendix I. Theme tree emphasis will favor longleaf pine to support ecosystem management policy, sustainability, endangered species conservation, and sustainable communities.

(e) Multiple historic districts and individual historic properties are present at Fort Bragg. Fort Bragg's Cultural Resources Management Program (CRMP) reviews all construction projects through the NEPA review and clearance process and assesses their impact on historic properties. Construction projects with the potential to affect historic properties require close coordination with CRMP throughout project development and execution. Projects determined to affect historic properties may require consultation with the North Carolina State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act, as codified in 36 CFR 800. All SHPO consultations will be initiated by CRMP and are typically completed in 45 days (including the mandatory 30-day SHPO review period). Some projects may require multiple 30-day SHPO reviews to complete the consultation process. Project schedules must take into consideration and make allowance for the requirement of SHPO consultation. When SHPO consultation is required, the process must be complete prior to the commencement of construction activities. «BRAGG_SHPO_CONSULT».

Comment [JTH1]: SUSAN _ THE RADIO CHOICES HAVE BEEN REVISED FOR AUGUST 2010 UPDATE>

6.3.1.5. Required Submission of Plans in Electronic Format

(a) At each submission stage project site plans and maps shall be submitted to Fort Bragg DPW, for review by Environmental Division (ED), in Bentley Microstation DGN V8 electronic format.

(b) The standard unit of measurement (horizontal and vertical) for all site plans and maps shall be the US Survey Foot.

(c) All site plans and maps shall be horizontally georeferenced to the NC State Plane Coordinate System, North American Datum of 1983 (NCSPCS, NAD83). All site plans and maps shall be vertically georeferenced to the North American Vertical Datum of 1988 (NAVD88).

(d) All maps and plans shall employ layers/levels per the US National CAD Standard (NCS). The project construction boundary shall be clearly depicted and labeled.

(e) The project construction boundary shall be comprised of closed polygons on the appropriate layer/level (C-PROP-CONS per the current NCS). Elements on the project construction boundary layer/level shall be limited to the project construction boundary. No other data will be placed on that layer/level.

Polygons shall be free and clear of duplicated vertexes and self-intersections. Point features such as borings, wells, trees, and test-pits shall be depicted by normal cells only (no shared cells).

6.3.2. Site Structures and Amenities

6.3.2.1. Supporting site structures shall preferentially include EPA-designated recovered materials products, USDA-designated bio-based products, and environmentally preferable products. The items identified in Appendix NN used in construction contracts must meet or exceed USDA Biobased and EPA RMAN requirements. Exemptions to the use of EPA-designated recovered materials products, USDA-designated bio-based products, and environmentally preferable products based on availability and performance must be cleared by the Sustainable Materials Planner or Sustainable Facilities Planner.

6.3.2.2. Supporting site structures shall utilize the same building materials and characteristics as the adjacent buildings. Provide the following site structures and amenities:

(a) Dumpster Screening shall match or compliment the surrounding facilities and current dumpster systems in the area. Locate dumpster pad to minimize backing of trash transfer vehicles. Locate dumpster pads and screening in accordance with setbacks in UFC 4-010-01. Access to dumpster pads should not be thru parking lots whenever possible to preclude mixing of large trucks, POVs, and GOVs. When required, limit the dumpster unloading vehicle backup distance to minimum distance possible. ***<BDE_ONLY>*** BRIGADE HQS – provide two

SAMPLE

(2) dumpster capacity pad with screening*</BDE_ONLY><BN_ONLY>* BATTALION HQS – provide one (1) dumpster capacity pad with screening*</BN_ONLY><BDE_BN>*BRIGADE AND BATTALION HQS – provide one (1) dumpster capacity pad with screening*</BDE_BN><COF>*COMPANY OPERATIONS FACILITY – provide one (1) dumpster per Company in a multi-company operations facility complex*</COF><UEPH>*BARRACKS – provide one (1) dumpster per 50 sleeping spaces*</UEPH>*

(b) *<BN_ONLY>*Provide one 20-foot aluminum flagpole with manual two line hoist/lower and securing system in vicinity of the Battalion (Type B) sign and within the 33 foot unobstructed space. Connect flagpole area via a sidewalk to main sidewalks. *</BN_ONLY><BDE_BN>*Provide one 20-foot aluminum flagpole with manual two line hoist/lower and securing system in vicinity of the Battalion (Type B) sign and within the 33 foot unobstructed space. Connect flagpole area via a sidewalk to main sidewalks*</BDE_BN>*

(c) *<BN_ONLY>*Provide one physical training area per Battalion HQ consisting of sixteen (16) climbing ropes stations, twenty (20) chin-up bar stations, and twenty (20) variable elevation sit-up stations per attached drawings *</BN_ONLY><BDE_ONLY>*Provide one C130/PLF Mock Up Training Site per Bde HQ consisting of a combination C130/C17 mockup and PLF platform per attached drawings*</BDE_ONLY>*

6.3.2.3. Exterior Signage

(a) *<UEPH>*Provide one Type-A sign as depicted in Appendix H at the barracks building. *</UEPH><BN_ONLY>*Provide one Type B sign as depicted in Appendix H at each Battalion Headquarters building. *</BN_ONLY><BDE_BN>*Provide one Type B sign as depicted in Appendix H at each Battalion Headquarters building. *</BN_ONLY><BDE_BN>*Provide one Type A1 sign as depicted in Appendix H for each Company in the Company Operations Facility. and a 2" diameter heavy duty galvanized pipe, 1'-0" AFG at a slant to support company guidion at the Company entrance into the COF complex. In cases of multiple companies using the same entrance, provide one guidion mount per Company. *</BDE_BN><COF>*Provide one Type A1 sign as depicted in Appendix H for each Company in the Company Operations Facility. and a 2" diameter heavy duty galvanized pipe, 1'-0" AFG at a slant to support company guidion at the Company entrance into the COF complex. In cases of multiple companies using the same entrance, provide one guidion mount per Company.*</COF><UEPH>*

6.3.2.4. Provide one concrete half basketball court with a 3-foot concrete shoulder border inside the barracks limits of construction. The basketball court marking and goal dimension shall be designed to meet NCAA standards.

6.3.2.5. Provide one picnic shelter per barracks. Picnic shelter shall include a non gas-fired grill, permanently mounted picnic table with integral benches with seating capacity for six, permanent exterior garbage bin capable of holding metal garbage can with lid: photo electric light (no switch), and electrical receptacle.

6.3.2.6. Provide one beach sand volleyball court within the barracks limits of construction. The volleyball court shall designed meet official dimension of the United States Volleyball Association. *</UEPH>*

6.3.3. Site Functional Requirements:

6.3.3.1. Stormwater Management Systems.

(a) The project shall be meet National Pollutant Discharge Elimination System (NPDES) requirements for stormwater management

(b) Comply with the NPDES General Stormwater Permit Requirements and all other associated NPDES permit requirements. The general permit is issued along with the Erosion Control permit from the NC Department of Environment and Natural Resources (NCDENR) - Land Quality Section and includes requirements to record rainfall events at the site, visually monitor and maintain records of the stormwater discharge, and maintain a log of the corrective actions required to remain in compliance. The contractor shall maintain records until the erosion control permit has been closed out by NCDENR.

(c) Develop and submit a Storm Water Pollution Prevention Plan (SWPPP) to the Contracting Officer's Representative (COR) and to the Ft. Bragg Water Management Branch for approval. After receiving approval from the Water Management Branch and concurrence from the COR, submit the SWPPP to the NC Division of Water Quality for approval. Pay all permit related fees. If the plan is found to be deficient correct the deficiencies and resubmit the plan.

SAMPLE

(d) Design the permanent stormwater treatment measures to comply with NCDENR requirements as laid out in the NC Division of Water Quality's Stormwater BMP Manual. A copy of the BMP manual can be obtained at http://portal.ncdenr.org/web/wq/ws/su/bmp-manual.

(e) In addition to the NCDENR requirements:

(i) Design the permanent measures to keep the post construction rate of stormwater discharge for the 10 year, 24 hour storm at or below the pre-developed discharge rate.

(ii) Design the permanent measures to accommodate the 100 year, 24 hour storm without significant flooding or damage to the stormwater system and facilities/improvements in the surrounding area.

(iii) Calculate the pre-developed discharge rate and quantity of discharge as if the site was completely undeveloped forest land.

(iv) For Ft. Bragg use the following storm estimates. (1 year, 1 hour, 1.5 inches), (2 year, 1 hour, 1.8 inches), (10 year, 24 hour, 5.4 inches), (25 year, 24 hour, 6.5 inches), (50 year, 24 hour, 7.3 inches) and (100 year, 24 hour, 8.2 inches).

(v) Design the permanent measures to keep the post construction quantity of stormwater discharge for the 95 percentile rain event (1.8 inch 24 hr rainfall) at or below the pre-developed quantity of discharge unless it can be shown to be technically unfeasible due to soil types and/or space constraints. Infiltration of the stormwater runoff from the first 1.8 inches of rainfall is preferred, however, if infiltration is not technically feasible other uses of the excess stormwater such as on site storage for irrigation shall be investigated. Uses other than infiltration must receive approval from Ft. Bragg. Reference EISA 2007 Section 438 and EPA 841-B-09-001Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act.

(f) Employ Low Impact Design (LID) to the Maximum Extent Practicable. Stormwater management shall focus on infiltration of stormwater and natural methods of pollutant removal. The use of vegetated filter strips and buffers, the conveyance of stormwater by vegetated swales rather than pipes, the use of curb cuts rather than curb inlets, the use of several small grass lined infiltration pools rather than one large basin, and the use of grass paving products for emergency vehicle access lanes rather than concrete or asphalt are preferred. For sites that infiltration has been found to be unfeasible, the stormwater system shall focus on quality (nutrients/sediments/pollutants) and rate of discharge.

(g) Do not use the following structural stormwater management measures without prior approval of the Water Management Branch, Directorate of Public Works: permeable/pervious pavements, green roofs, subsurface infiltration chambers, curb inlets and sand filters.

(h) Perform borings for potential stormwater management features to identify seasonal high water table as required by the NCDENR Division of Water Quality Best Management Principles Manual.

6.3.3.2. Erosion and Sediment Control

(a) Prepare an Erosion Control Plan (ECP) in accordance with the North Carolina Erosion and Sediment Control Planning and Design Manual, latest revision.

(b) The North Carolina Sedimentation Control Pollution Act of 1973, decrees that any land disturbing activity over an acre must have approved sediment and erosion control plan before construction begins, In addition, the Installation requires that all land disturbing activity, regardless of size, have an approved sediment and erosion control plan before any land disturbing activity can commence.

(1) The Fort Bragg Water Management Branch must approve all sediment and erosion control plans prior to submittal to the North Carolina Department of Environment and Natural Resources (NCDENR). Sediment and Erosion control plans must bear the Fort Bragg Storm Water Management Branch stamp prior to acceptance by NCDENR. Both agencies will review the plan(s) to ensure that all measures to retain sediment on the site during construction and all measures to prevent erosion after construction have been designed into the construction drawings. Agencies will review sediment control measures such as silt fence, temporary sediment traps, and construction entrances/exits for the proper sizing and installation.

(2) Once the plan(s) is approved, the Ft. Bragg Water Management Branch, the Corps of Engineers and the NCDENR will inspect construction to ensure that all work is performed in adherence to the approved plan.

SAMPLE

(3) The site shall meet the appropriate High Density Design Requirements as described in the most current edition of North Carolina Stormwater Best Management Practices Manual. Reference website can be found at Appendix BB.

(4) Prior to any revision or deviation from the approved set of Sediment and Erosion control plans, submit new plans to Fort Bragg Storm Water Management Branch for approval prior to submission to NCDENR following the same process as outlined above.

(c) All pond type trash racks shall be solid walled, anti-vortex devices. Bar-type trash racks are unacceptable.

6.3.4. Site Structures and Amenities

«SITE_STRUCTURES_AMENITIES»

6.4. SITE ENGINEERING

6.4.1. Existing Topographical Conditions

6.4.1.1. See Appendix J for a topographic survey and the site plan showing this project for information only. Coordinate the design with tie in points provided. Verify the information provided and any discrepancies that are found in the furnished survey and bring this information to the immediate attention of the Contracting Officer for clarification. Any additional survey required for the complete design and construction of this project shall be the responsibility of the Contractor.

«SITE_EXIST_TOPO»

6.4.2. Existing Geotechnical conditions: See Appendix A for a preliminary geotechnical report.

6.4.2.1. Verify the results of the Government supplied information provided and bring any discrepancies found in the finished survey to the immediate attention of the Contracting Officer for clarification. The provided site layout drawings are for guidance but the Contractor proposed site layout shall be similar in design

6.4.2.2. Locate primary facilities to avoid existing above and below ground utilities, government and privatized, traversing the site whenever possible.

6.4.2.3. Locate primary facilities in accordance with all AT/FP requirements.

6.4.2.4. Coordinate the new construction activities and erosion control measures with the adjacent facilities and erosion control measures.

6.4.2.5. Limits of Construction:

(a) The Limits of Construction are shown on the provided drawings. Confine all work within the Limits of construction except as needed to tap into existing utility lines or maintenance holes.

(b) Provide drawings to Fort Bragg to coordinate locator service outside of construction limits prior to conducting any digging outside of the construction limits.

6.4.3. Fire Flow Tests See Appendix D for results of fire flow tests to use for basis of design for fire flow and domestic water supply requirements.

6.4.4. Pavement Engineering and Traffic Estimates:

6.4.4.1. A professional engineer, licensed in the State of North Carolina, shall design all rigid and flexible pavements in accordance with the Contractor's final geotechnical report.

6.4.4.2. Vehicular Parking Areas

(a) Do not use permeable pavements, including segmented pavers, pervious concrete or pervious asphalt in vehicular parking and other pavements.

SAMPLE

(b) Design parking areas surface slopes between 0.5% and 2% with a maximum of 3% in the parking stalls. Layout parking lots so that drainage conforms to the existing general site contours to provide the maximum utilization of water gardening or bio-retention ponds on site.

(c) Hardstand slopes shall be between 0.5% and 2.0%. Slope all hardstands away from readiness and covered hardstands.

(d) Design parking lots to avoid ponding of water.

(e) Wheel stops shall be slotted along bottom edge to allow water to pass beneath the wheel stop.

(f) Parking Area access lanes shall be a 24 ft wide minimum from the edge of pavement.

(g) Motorcycle parking spaces shall be concrete, 9' x 18' long with appropriate signage. Locate motorcycle parking pad at end of parking lines to allow up to 4 motorcycles to be parked in one spot using the 18 foot side. Identify kickstand locations with inset steel plates.

6.4.4.3. Emergency Vehicle Access and Service Drives. Design emergency vehicle access with NFPA, UFC 3-600-01, and as required by the Installation (FB Fire Dept is AHJ). Consider an option for use of grass paver type products for emergency vehicle access if soils engineering studies indicate ground can support such structures.

6.4.4.4. Vehicle Crash Barriers (as applicable to certain facility types)

(a) Locate vehicle crash barriers at all emergency vehicle access and service drives to barracks and battalion headquarters buildings and all service drives leading to the company operation facilities service yard.

(b) Vehicular crash barriers shall be pad lockable in the open and closed position and meet the minimum crash certification of K1.1/L3. Barrier arm surface shall have a rust inhibiting painted surface and shall be furnished with 4-inch wide reflective paint spaced at every 20 inches.

(c) Drop arm barrier shall be counter weighted for ease of lifting by a single person.

(d) The use of removable, bollard type barriers is not allowed. Locate AT/FP measures in accordance with applicable criteria.

6.4.4.5. Sidewalks

(a) Sidewalks shall provide an ample functional system of walks connecting structures, parking areas, streets, and other walks as pedestrian traffic demands. In addition, carefully review paths of travel between buildings within this and adjacent complexes to determine a layout of sidewalks that is sufficient to meet the likely paths of travel.

(b) Locate sidewalks a minimum of 5 feet from main roads and streets. Slope sidewalks to meet all requirements for ADAAG. Construct sidewalks of Portland Cement Concrete.

(c) Emergency vehicle access and service drives shall be a concrete sidewalk designed to support multi-story ladder trucks weighing 75,500 pounds on three axles; two axles are double tired.

6.4.4.6. Flexible Pavement Design

(a) Design heavy duty flexible pavements to support H-20 loading.

(b) Design light duty flexible pavements to support 5,000 lb axial loading.

(c) Pavement designs over cohesive soil subgrades require under-drain systems.

(d) The flexible pavement design shall be larger of the calculated flexible design thickness and the minimum flexible design thickness.

6.4.4.7. Rigid Pavement Design

(a) Design rigid pavements to support H-20 loading.

(b) The minimum pavement section shall be 6 inches rigid concrete pavement over 6 inches of compacted aggregate base course.

(c) Pavement designs over cohesive soil subgrades require under drain systems.

SAMPLE

(d) Provide a concrete joint layout plan for all concrete pavements. Show joint spacing, joint types, and joint grading.***<COF>***

(e) Company Operations Facilities Service Yard. Design the Company Operation Facilities service yard to support multi-story ladder trucks weighing 75,500 pounds on three axles, two axles are doubled tired. Design emergency vehicle access in accordance with NFPA, UFC 3-600-01, and as required by the Installation (FB Fire Dept is AHJ). Equip emergency access and service drive entrances with a removable bar type vehicle crash barriers located in accordance with UFC 4-010-01.***</COF>***

6.4.4.8. Additional Requirements:

«SITE_PAVEMENT_ENGINEERING_AND_TRAFFIC»

6.4.5. Traffic Signage and Pavement Markings

6.4.5.1. A Professional Engineer (PE) licensed in the State of North Carolina, qualified and experienced in traffic engineering and signal design must perform traffic signalization plans and design work to include road closure plans.

6.4.5.2. All pavement marking and road way signage shall be in compliance with the Manual of Uniform Traffic Control Devices (MUTCD) and Federal Highway Administration (FHWA) policies.

6.4.5.3. Four (4) inch thermoplastic white reflective material is the only authorized material for stripping.

6.4.6. Base Utility Information

6.4.6.1. General.

(a) Prior to interim (or final if no interim package) site design, coordinate and validate with the survey on the locations and sizes of all existing utility services, above and below ground.

(b) Install and reconnect temporary utilities for buildings which are supported by utilities which will be demolished/or relocated during construction. Coordinate service interruption two weeks in advance with the DPW. Sandhills Utilities Service will supply the electric meter.

(c) All Building Utility meters including but not limited to: Water, Gas and Electric shall be compatible with the Army metering program pursuant to Public Law 109-58, Section 103 of the Energy Policy Act of 2005. The intent is for all utility meters to report their data to the installations base-wide Utility Monitoring and Control System (UMCS). The utility meters must provide data at least daily and measure at least hourly consumption of electricity. The means for meter data transmission will be by using ANSI/CEA 709.1b (LONWorks). Wireless is not an approved means of communication at Fort Bragg. A key element for success will be integrating these systems with the Installation's UMCS. Coordinate type of metering required for DDC monitoring with Energy Manager. Contact the DPW for more detailed specifications.

(1) All new buildings shall have a water meter installed and connected back to the Utility Monitoring & Control System (UMCS) via the buildings Direct Digital Control (DDC) system. The privatized utility provider, Old North Utility Services, Inc. (ONUS) will provide and install the meter under separate contract with the Government. The Contractor is responsible for electrical connections to the meter under this contract.

(2) Install a gas meter in all new buildings and connect back to the Utility Monitoring & Control System (UMCS) via the buildings Direct Digital Control (DDC) system. The meter shall send a Pulse output to the DDC system.

(3) Electrical power metering/ monitoring shall be from a digital metering on the main power panel (service entrance). Transfer data to the DDC panel by installed conduit and cat 6 cabling (not from the building transformer meter.) Provide a 1-inch conduit from the electric utility meter to a data collection point located in a DDC panel inside the building mechanical room. In addition, provide CAT 6 cable from the communications room to the building point of connection (BPOC) located a DDC Control panel in the building mechanical room. Coordinate location with the Ft. Bragg UMCS manager.

6.4.6.2. Storm drainage service and natural gas on this installation is not privatized.

SAMPLE

6.4.6.3. Water and Sanitary Sewer Services:

(a) Water and Sanitary Sewer services on this installation are privatized. Contact Old North Utility Services, Inc. (ONUS), 110 N. Fourth St., Spring Lake, North Carolina 28390, 910-495-1311.

(b) Provide one separate fire sprinkler service connection, one separate potable water service connection and one separate sanitary sewer service connection per building.

(c) ONUS will act as a Prime Contractor (in a separate contract between the Government and ONUS) for design and construction of exterior potable water, fire water and exterior sanitary sewer to points of connection identified in Appendix C.

(d) Coordinate water requirements and connections with ONUS.

(e) Coordinate sewer requirements and connections with ONUS. No tapping of the existing water distribution or sanitary sewer system is authorized without prior approval of ONUS.

(f) ONUS is responsible for filing, maintaining and closing water permits and sanitary sewer permits for the project. Contact ONUS for a copy of the latest approved installation standards and specifications.

(g) Model the fire flows and inlet pressures for this facility in concert with ONUS to construct a water distribution model. Verify that the fire flow and pressure requirements for the new facility are less than or equal to the modeled flows and pressures.

6.4.6.4. Natural Gas: The existing underground gas distribution system at Fort Bragg is not privatized.

(a) «SITE_GAS»

(b) Honeywell manages gas utility service laterals at Simmons Army Airfield and those which feed individual buildings on Fort Bragg: that are Honeywell installed. See Appendix C for POC.

(c) Fort Bragg manages the remaining natural gas laterals on Fort Bragg and Pope Air Force Base. See Appendix C for POC.

(d) The distribution system pressure is approximately 22 psig to 30 psig. If gas is determined to be the most life-cycle cost effective alternative, the system design shall comply as follows:

(1) Contractor shall design, tie-in, layout/route and install gas distribution system up to and within the facility (including the gas meter/regulator assembly.

(2) Coordinate and field verify site conditions prior to performing any work. See Appendix C (Utility Connection) and the site plans for additional information.

(3) Install copper or other metallic tracer wire for all new non-metallic gas lines (natural and LP). Install the tracer wire below the pipe and connect from manhole to manhole (valve to valve, etc) with enough additional length for the end to reach the ground surface for the attachment of energizing equipment. Wire shall enter the manhole so it is not cut or severed during installation. Also install metallic marking tape, approximately 18 inches below ground surface.

6.4.6.5. Chilled and Hot Water. Honeywell manages Chilled and Hot Water: Chilled Water (CW), and High Temperature Water (HW) utility services on Fort Bragg. See Appendix C, (Utility Connection) for additional information and POC.

6.4.6.6. Communications System (Government)

(a) Communication service on this installation is owned by the Government. Design and install the Outside plant (OSP) communication infrastructure including cabling from a designated maintenance hole or service delivery point into the facility main telecommunications room.

(b) Complete the design and full construction of the work to include all cable splicing, count changes, reconfigurations, over overbuilds.

6.4.6.7. Cable Television (CATV) Service

(a) Extend one 4-inch duct from the CATV backboard to nearest maintenance hole or handhole in the site vicinity. Do not locate CATV demarcation point in the facility telecommunications room. CATV service provider

SAMPLE

shall coordinate with DPW for location of CATV demarcation point, usually placed in the mechanical or electrical room.

(b) Time Warner Cable Company (TWC) will provide and install service cabling throughout the project site, at the CATV demarcation point located in the facility mechanical or electrical room.. Coordinate site/facility interfaces with TWC.

(c) See Appendix C: UTILITY CONNECTIONS for additional information and requirements.

(d) Provide single sheet ¾'' A-C fire-rated backboard in room where CATV building entry is located. Plywood type as per I3A para. 2.5.6.

(e) Provide additional dedicated power outlet and grounding bar at CATV building entry area.

6.4.6.8. Telephone Service (Private Company)

The local telephone company, CENTURYLINK, will design and install outside plant (OSP), local (private) telephone service (e.g., subscription service to permanent party barracks). Coordinate with CENTURYLINK to assure duct line entry into the building.

6.4.6.9. Exterior Electrical Distribution System

The privatized electrical system contractor, Sandhills Utilities Services (SUS), will design and construct site electrical primary distribution to and within the project site under separate contract with the Government. See paragraph 6.9 and Appendix C (Utility Connection) for additional information and POC.

6.4.6.10. Underground Utility – Road Crossings. Use under-ground boring systems for all underground utilities that cross active road crossings to tie into existing utilities. Do not use open trench methods to cross roads unless a last resort and specifically approved by the Fort Bragg Director of Public Works. Support all piping, using spider spacers. Supporting with oak boards is not allowed.

6.4.7. Cut and Fill

6.4.7.1. Limit earth cut and fill slopes to no steeper than 3 horizontal to 1 vertical. Retaining or segmented walls are an option to limit the cut and fill. These slopes include the borrow pit.

6.4.7.2. Rough and possibly no cut/fill or grading in construction areas. Fill depression/holes from the removal building foundations and basements.

6.4.7.3. Compaction requirements shall be in accordance with ASTM D1557 (modified proctor), not ASTM D698 (standard proctor). The licensed geotechnical engineer or his authorized representative shall inspect, evaluate and approve all subgrades (pavements, floor slab, or foundation) prior to placement of overlying construction materials, as appropriate.

6.4.7.4. Ensure that the licensed project design geotechnical engineer oversees and directs proof rolling operations (for subgrade suitability); fill placement and compaction operations, including associated soil properties, compaction, and field density testing; and footing inspections on a full time basis. A Corps of Engineers validated geotechnical testing firm shall inspect, test, and document earthwork construction

6.4.8. Borrow Material: Presently there «BORROW_MATERIAL_AVAILABILITY» an available Borrow Pit(s) on Ft. Bragg. See location Plan. A permit is required to use the Fort Bragg soil borrow material pits per Section Borrow Pit permit.

Comment [sdn2]: [IS] [IS NOT]

6.4.9. Haul Routes and Staging Areas

6.4.9.1. See Location Plan for haul routes. Utilize only those haul routes identified on the drawing set included in this RFP.

6.4.9.2. Additional Site Requirements

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(a) Identification of Employees. Provide to each employee and require each employee engaged on the work site to display identification as approved and directed by the Contracting Officer. Deliver prescribed identification to the Contracting Officer for cancellation upon release of any employee. When required, obtain and provide fingerprints of persons employed on the project. All personnel shall wear identifying markings on hard hats to clearly identify the company for whom the employee works.

(b) Employee parking. Employees shall park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Employee parking shall not interfere with existing and established parking requirements of the Installation.

(c) Temporary Facilities. Administrative Field Offices: Provide and maintain administrative field office facilities within the construction area of the designated site unless approved by the Contracting Officer and the Installation. Government office and warehouse facilities are not available to the Contractor's or subcontractors' employees.

(d) Storage Area. Trailers, equipment, or materials shall not be open to public view with the exceptions of those items which are in support of ongoing work on any given day. Do not stockpile materials outside the fence in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day. Locate construction trailer(s) within limits of construction. Locate the laydown yard/storage area within the limits of the construction area unless previously approved by the Contracting Officer and the Installation.

(e) Temporary Utilities. All temporary utilities (water, sewer, electrical, telecommunications, etc) will be at the Contractor's expense and subject to Fort Bragg regulations. In the case of privatization utility Contractors, the Utility cost information is at Appendix K. Contractor must negotiate and contract with the privatization utility directly without benefit of the Government

(1) Coordinate with ONUS for any temporary water and sanitary sewer service. ONUS will provide estimate for connection costs.

(2) Coordinate with Sandhills Utilities Services for any temporary electrical services. Sandhills Utilities Services will provide estimate for connection costs.

(f) Appearance of Trailers, Storage Spaces, and Other Facilities within the Laydown Yard. Storage equipment and facilities used for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in a state of good repair. Trailers, which, in the opinion of the Contracting Officer, require exterior painting or maintenance, will not be allowed on the Installation.

(g) Maintenance of Storage Area. Keep fencing in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas, which are not established roadways, cover such areas with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways. Gravel gradation shall be at the Contractor's discretion. Mow grass located within the boundaries of the construction site for the duration of the project. Trim grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers and edge neatly.

(h) Security Provisions. Provide adequate outside security lighting at all temporary facilities. The Contractor shall be responsible for the security of its own equipment. Notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office

(i) Project Safety Fencing. As soon as practical, but not later than 15 days after the date established for commencement of work, furnish and erect temporary project safety fencing around the construction site. This fencing shall remain the property of the Contractor. The safety fencing shall be 9 gauge chain link fence, a minimum of 72 inches high, supported and tightly secured to steel posts located on a maximum of 10 foot centers, constructed at the approved location. Maintain the safety fencing during the life of the contract and upon completion and acceptance of the work remove all fencing from the work site. Prior to erection of any temporary project safety fencing, coordinate with Fort Bragg DPW Transportation Engineer, Ray Goff; 910-907-1759 to check appropriate traffic safety sight lines. Installation and locating of project safety fencing shall consider sight triangles at intersections, curves, and construction entrances.

(j) Temporary Hazard Safety Fencing. Furnish and erect safety fencing at temporary hazards and work site areas considered to be hazardous to the general public. This fencing shall remain the property of the Contractor. The safety fencing shall be high visibility orange, high density polypropylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed

SAMPLE

at the approved location. Maintain the safety fencing during the life of the hazard and remove all fencing upon completion and acceptance of the work.

(k) Cleanup. Remove construction debris, waste materials, packaging material and the like from the work site daily. Clean up any dirt or mud which is tracked onto paved or surfaced roadways. Store materials resulting from demolition activities which are salvageable within the fenced area described above or at a supplemental storage area. Neatly stack stored materials, not in trailers, whether new or salvaged.

(l) Restoration of Storage Area. Restore areas used by the Contractor for storage of equipment or material, or other use, to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to original condition, including top soil tree and vegetative replanting and seeding, as necessary.

(m) Building and Crane Height Restrictions. Verify construction activities do not interfere with Simmons Army Airfield or Pope Air Force Base aircraft glide slopes and FAA height restrictions. Submit FAA Form 7460-1 for all cranes to be used on each building and for each building in the project to the FAA. Submit this form to the FAA a minimum of 60 days before the cranes arrive on site and the vertical construction of the buildings start. FAA Form 7460-1 is available from the Contracting Officer's Representative (COR) at the area office.

6.4.10. Clearing and Grubbing:

6.4.10.1. Clear and grub all brush and vegetation from the designated site area.

6.4.10.2. Tree Removal Plan. Develop a Tree Removal and Restoration Plan. Include a pre-existing tree survey (drawing) that clearly depicts: removed and retained trees; a table containing type tree species, size range (dbh) and number of trees to be removed and a functional replacement value for each size range (if tree replanting is applicable), as outlined by the Fort Bragg Tree Replacement Policy and Table, Appendix II.

(a) For projects under one acre, the tree survey will document tree size (by dbh), species, and location on the pre-existing tree survey drawing. Include the table identified above.

(b) Projects impacting vegetation will require habitat restoration (e.g. controlled burns, thinning, and/or mechanical or chemical mid-story hardwood removal) or tree restoration contingent upon project location and scale. Fort Bragg DPW Environmental Branch compliance officer will notify DPW and COE project manager and determine habitat or tree restoration requirements.

(c) Tree replacement plans must attempt functional replacement value by replanting trees on-site. If not applicable, replace trees off-site or a combination of both on-site and off-site may apply. Projects > 1 acre determine tree functional tree replacement value is at a ratio of 1:1 (acre for acre) to eliminate negative forest fragmentation effects. Include replanting locations and planting specification with each design submittal.

(d) Landscaping plan must consider providing species diversity, green space planning, corridor development, wildlife value, etc. Plantings must consider "natural community" (i.e., aggregate clumping and composition, and structural layers (ground, mid-story and over-story). Green space areas should be juxtaposed to preexisting natural habitat to facilitate dispersal pathways (e.g., population demographics) for animals and plants, as well as, provide for recreational value.

(e) Plant pine trees during late fall (October-November) or early spring (February-March) to ensure maximum survivability and diminish likelihood of replacement. All replanting will be covered under a one year warranty and will be replaced under corresponding project funding.

Habitat restoration may be required in lieu of tree replacement contingent upon federal regulator guidance, available tree replacement locations, and benefit to impacts natural resources. Habitat restoration will be specified by the appropriate Environmental Management Branch subject matter experts and associated costs will be requested and included in the overall project funding. Habitat restoration may include one or a combination of the following: controlled burns, pine thinning, and/or mechanical or chemical mid-story hardwood removal.

6.4.10.3. Timber Harvesting. ***<TIMBER1>***This project requires timber harvesting and merchantable tree sales are required for this site. Delineate the clearing limits by placing BLUE paint on perimeter trees on the side facing the area to be cleared. Notify the Government when this has been accomplished. Designate representative knowledgeable about the marking to answer any questions that may arise regarding clearing limits. Merchantable Timber is defined as: Government assets of pine trees greater than 5 inches in diameter at 4.5 feet above the ground (DBH) and hardwood trees greater than 10 inches DBH shall be considered as merchantable timber. The Government will make arrangements for their timber harvesting crews to clear the timber. Allow the

Comment [JTH3]: SPECIFIER OPTION RADIO: Project site has merchantable timber Contractor marks clearing limits. Government Timber contractor harvests merchantable timber.

SAMPLE

Government 60 calendar days to remove merchantable timber once the Contractor has flagged the trees to be removed. Merchantable timber sales do not include stump or limb removal. Remove all stumps and limbs from the project site. A valid NCDENR sediment and erosion control permit is required prior to removal of stumps from the project site. ***</TIMBER1><TIMBER1_SALE_NO>*** No merchantable tree sales are required at site. Stockpile tree and land clearing debris at the designated recycling area at the Fort Bragg Lamont Road Landfill Facility. Tree and land clearing debris shall be free of as much dirt as possible. Cut trees and limbs to manageable size, 4 to 6 feet length. Note: if the tree has a large diameter (example – 3 feet in diameter) cut it to lengths of 3 feet or less. Cut trees close to the stump for safe handling at the landfill facility. ***</TIMBER1_SALE_NO>***

Comment [JTH4]: SPECIFIER OPTION RADIO Project site has no required merchantable timber sales.

Comment [JTH5]: SPECIFIER OPTION RADIO: Project site has merchantable timber. Contractor cuts and stockpiles merchantable timber.

<TIMBER2>

(a) Cutting and stockpiling by Contractor at site. This project requires timber harvesting and merchantable tree sales are required for this site. Delineate the clearing limits by placing BLUE paint on perimeter trees on the side facing the area to be cleared. Notify the Government when this has been accomplished. Designate a representative knowledgeable about the marking to answer any questions that may arise regarding clearing limits. Merchantable Timber is defined as: Government assets of pine trees greater than 5 inches in diameter at 4.5 feet above the ground (DBH) and hardwood trees greater than 10 inches DBH shall be considered as merchantable timber.

(b) A valid NCDENR sediment and erosion control permit is required prior to removal of stumps from the project site. Cut all merchantable timber prior to pushing the stump, leaving a stump less than 12 inches. Trim trees of limbs, and cut the top off where the diameter of the tree is less than 4 inches. Haul trees, tree length, to a designated location and stack in an orderly manner. Haul and stack trees in a manner that prevents the trees from being buried or pushed into the ground. Stockpile merchantable timber pine and hardwood trees separately.***</TIMBER2>***

6.4.11. Landscaping:

6.4.11.1. Develop a sustainable landscape plan in accordance with the Installation sustainable communities' goals and priority.

6.4.11.2. Plant native trees, shrubs and grasses in accordance with Fort Bragg's plant list palette (Appendix I). Theme tree emphasis favors longleaf pine to support ecosystem management policy, sustainability, endangered species conservation, and sustainable communities.

(a) Place dense native evergreen mass vegetation (such Yaupon Holly, *Ilex vomitoria*, shrubbery) along all concrete, gravel, soil, and other pathway intersections to prevent 'short-cutting' outside the designated pathway surface. The length of dense native evergreen mass vegetation plantings shall generally extend at least 15 feet from the intersection edge along each pathway

(b) Do not specify invasive and/or exotic species (plant materials) in the Landscape Plan.

(c) Consider site utilities when developing the landscape plan to prevent conflicts. Avoid placing trees under light fixtures or shrubs in front of equipment doors and fire hydrants.

(d) If a temporary irrigation system is used, its use shall be limited to a period of one year to support turf establishment". Remove the system upon completion of turf establishment.

6.4.11.3. The source water for all areas receiving irrigation shall be from rainwater harvesting, process water recovery, or other non-potable source. This does not include water wells.

6.4.12. Turf: Provide turf in all high traffic troop congested areas such as barracks, administrative facilities and dining facilities.

(a) Use centipede grass (Eremochloa ophiuroides) for low traffic grass turf areas.

(b) Use zoysia grass (Zoysia spp) for high traffic grass turf areas.

(c) The Fort Bragg preferred turf and seeding requirements are in Appendix I.

6.5. ARCHITECTURE

SAMPLE

6.5.1. General: To the maximum extent possible within the contract cost limitation, the buildings shall conform to the look and feel of the architectural style and shall use the same colors as adjacent facilities as expressed herein. The Government will evaluate the extent to which the proposal is compatible with the architectural theme expressed in the RFP during the contract or task order competition. The first priority in order of importance is that the design provides comparable building mass, size, height, and configuration compared to the architectural theme expressed herein. The second priority is that design is providing compatible exterior skin appearance based upon façade, architectural character (period or style), exterior detailing, matching nearby and installation material/color pallets, as described herein.

6.5.2. **Design**

6.5.2.1. Appendix F is provided "For Information Only", to establish the desired site and architectural themes for the area. Appendix F identifies the desired project look and feel based Fort Bragg's Installation Architectural Theme from existing and proposed adjacent building forms; i.e. building exterior skin, roof lines, delineation of entrances, proportions of fenestration in relation to elevations, shade and shadow effects, materials, textures, exterior color schemes, and organizational layout.

6.5.2.2. The design should address Fort Bragg's identified preferences. Implement these preferences considering the following:

(a) Achievable within the Construction Contract Cost Limitation (CCL)

(b) Meets Milestones within Maximum Performance Duration.

(c) Achieves Full Scope indentified in this Solicitation

(d) Best Life-Cycle Cost Design

(e) Meets the Specified Sustainable Design and LEED requirements.

(f) Complies with Energy Conservation Requirements Specified in this RFP.

6.5.2.3. Priority #1 Visual Compatibility: Facility Massing (Size, Height, Spacing, Architectural Theme, etc.), Exterior Aesthetic Considerations: The buildings massing, exterior functional aesthetics, and character shall create a comprehensive and harmonious blend of features that are sympathetic to the style and context of the Installation. The Installation's intent for this area is as indicated in Appendix F. Site and architectural conceptual drawings that meet this objective are shown in Appendix F.

6.5.2.4. Priority #2. Architectural Compatibility: Exterior Design Elements (Materials, Style, Construction Details, etc.) Roofs, Exterior Skin, and Windows & Door Fenestrations should promote a visually appealing compatibility with the desired character while not sacrificing the integrity and technical competency of building systems.

6.5.2.5. See Appendix F for exterior colors that apply to Architectural character at Fort Bragg. The manufacturers and materials referenced are intended to establish color only, and are not intended to limit manufacturers and material selections.

6.5.2.6. Additional architectural requirements:

(a) Install fall protection anchor points on all roofs with a slope greater than 2:12

(b) Provide a Knox 4400 Series (single lock model) recessed wall mounted key vault for Fire Department use at each building exterior. Locate adjacent to the main building entrance. Coordinate purchase of key vault through the Installation Fire Department for purchase order information and forms.

(c) In addition to building number signage on building as indicated in paragraph 5, provide freestanding exterior building signage in accordance with Appendix H.

(d) No building shall be over six stories or penetrate identified air space management zones.

(e) Exterior Wall Protection: Construct the bottom five feet of exposed exterior walls of a durable material resistant (masonry or equivalent) to moisture damage and decay as well as impact damage caused during day-to-day soldier activities expected for the function of the facility. Material shall be easily maintained and/or repaired.

SAMPLE

(f) Prepare and present for approval an exterior building finishes scheme no later than at interim design submittal. Present original samples of this scheme to reviewers no later than at the interim design review conference for each facility included in the contract.

(g) See Appendix L for Installation LEED preferences relating to exteriors.

6.5.3. ***<UEPH>***Not Used***</UEPH><UEPH_NO>***Programmable Electronic Key Card Access Systems:

6.5.3.1. ***<SAFLOK_NO>***«BRAGG_KEY_CARD»***</SAFLOK_NO><SAFLOK_YES>*** The existing Installation key card access system is SAFLOK with short core, manual key override, and manufacturer's longest lasting magnetic strip card. ***</SAFLOK_YES>***

6.5.3.2. Installation Key System: Installation keying system for non-card locks is Best Lock Corporation. Cores for locksets other than those for mechanical, electrical and communications rooms only shall extend the existing Installation Keying System. Key locksets for mechanical, electrical and communications rooms to the existing Post Utilities Master Keying System. All locksets and exit devices shall accept the same interchangeable cores.***</UEPH_NO>***

6.5.4. INTERIOR DESIGN

6.5.4.1. Prepare and present for approval an interior building finishes scheme no later than at interim design submittal. Present original samples of this scheme to reviewers no later than at the interim design review conference for each facility included in the contract. Interior color scheme for each facility shall comply with one of the color schemes indicated for the facility type in Appendix F.

6.5.4.2. Toilet rooms, vestibules, bulkheads, stairs, message center, mail sorting, telecom rooms/SIPR (where specifically applicable to Project) and storage rooms will have painted gypsum board ceilings that meet CRITERIA. Mechanical rooms will have exposed structure. All other areas, including electrical rooms, will have two foot by two foot Omni-directional mildew resistant/moisture resistant acoustic ceiling tiles.

6.5.4.3. Provide a State of North Carolina licensed elevator inspector to inspect the installation, test all new elevators, applicable to project, and certify in writing that they meet all requirements. Provide the preventive maintenance program for the elevator for the initial warranty period of one year.

6.5.4.4. Where gypsum wall board (GWB) is used for interior walls, provide impact resistant GWB. For high abuse areas such as corridors. Interior paint shall be semi-gloss in wet areas and eggshell in all other areas. Provide ceramic tile walls, minimum 6'-0" high.in toilet rooms and janitor closets.

6.5.4.5. Items not included in contract (NIC):

(a) The Government will Provide and install (GF/GI) Furniture and accessories under separate contract.

(b) While fire extinguisher brackets and cabinets are Contractor furnished, the fire extinguishers are not in contract.

6.6. STRUCTURAL DESIGN

6.6.1. Treat subgrades under all facility foundations to resist subterranean and other wood destroying insects known to exist in the vicinity of the site. Treatment shall be in accordance with the environmental criteria referenced in this document.

6.6.2. Slabs on Grade. All interior slabs on grade, including storage and mechanical rooms, garages and carports, shall be underlain by a moisture vapor barrier consisting of lapped polyethylene sheeting having a minimum thickness of 6 mil and a minimum 4-inch thick capillary water barrier of open graded, washed pea gravel, or crushed stone, such as Nos. 57, 67, 78 or 89, except where a passive vapor intrusion mitigation system is required.

6.6.3. Structural Loading. Design building structures for the following types of minimum site specific live loads per most recent versions of ASCE-7 and IBC.

SAMPLE

6.6.3.1. Roof live loads – (20 psf)

6.6.3.2. Snow load – (pg – snow ground load – 10 psf)

6.6.3.3. Wind load – 95 mph

6.6.3.4. Seismic loading - Use applicable references. Seismic design also includes the various systems, piping, hangars, etc.

6.7. THERMAL PERFORMANCE

No additional requirements.

6.8. PLUMBING

6.8.1. Reduce potable water use for building sewage conveyance by 50 percent through the use of water conserving or non-potable water fixtures. This can be accomplished through the implementation of high-efficiency and very high efficiency toilets, rainwater harvesting/use, sensing low flow and very-low flow faucets, and other appropriate technologies.

6.8.2. Non-Water Using Urinals – Install with urinal rim 17 inches AFF. Provide concealed chair carriers. If urinals use a replaceable cartridge, provide four (4) additional, long-life type cartridges for each urinal installed along with any tools necessary to remove/install cartridge, and an additional quart of biodegradable liquid for each urinal installed.

6.8.3. Wall hung water closets are not preferred. Tank type (6-liter) water closets are preferred.

6.8.4. Preferred sink is vanity with counter mounted lavatory.

6.8.5. Floor mounted water coolers are not preferred.

6.8.6. All fixtures shall be white and exposed fittings polished chrome.

6.8.7. Piping

(a) Use plastic pipe (Sch 40 PVC) for drainage and venting including under concrete slabs or inside buildings.

(b) Do not use cellular foam core piping.

(c) Use CPVC and Type L (or above) copper for water supply above slabs.

(d) Use type K (copper) for water supply under slabs.

(e) Provide wall hydrants at a maximum spacing interval of 200 feet around the exterior wall of the building. Hydrant will be box type, freeze proof, with an integral vacuum breaker/backflow preventer.

(f) Elevator Sump Pump. Terminate waste discharge from elevator sump into the sanitary sewer system (where elevators are provided). Provide an oil separator to accept the waste discharge prior to emptying into the sanitary sewer system. When an “approved alarm system “ is provided and installed, an oil separator is not required and as a minimum, the alarm should provide a local audible and visual alarm, and shall provide a remote indication to the Building UMCS or similar monitoring system.

6.8.8. Provide domestic hot water equipment that provides the best Life Cycle Cost Analysis (LCCA) and not limited to gas fired or electric hot water heater.

6.9. SITE ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

6.9.1. General. Site development work shall include selected exterior electrical demolition, construction of secondary service, communications service, Cable TV, as shown on the drawings and as described in the contract or task order.

SAMPLE

6.9.2. Building Electrical Site Work and Coordination. Conduct electrical site coordination meetings at the start of design and when necessary thereafter. Meetings shall include government representatives (DPW and NEC), privatized electric utility company (Sandhills Utilities Services), the local cable TV company (Time-Warner) and all other utilities involved in the site work, and the Corps of Engineers Contracting Officers Representative.

6.9.3. Exterior Electrical Distribution System

6.9.3.1. Design and construct the site electrical secondary distribution. Coordinate with SUS through the Contracting Officer, regarding primary routing and transformer locations, sizes, and impedances. Use **p**ower and telecommunication poles only as a last resort when no other method is readily available.

6.9.3.2. Design and construct exterior circuits connected beyond the Meter for sump pumps, irrigation pumps and other electrical and mechanical equipment. Stand alone circuits should be beyond a meter and SUS end at the line side of the meter socket. .

6.9.3.3. Do not locate above ground distribution equipment within 33 feet of buildings, including transformers. Small pedestrian lights, less than 4" base diameter, are excluded from this requirement.

6.9.3.4. SUS will demolish any existing exterior SUS above ground equipment no longer required on project site. Any below ground demo will need to be negotiated due to depth and location of underground facilities.

6.9.3.5. All work done by SUS shall be under a separate contract with the Government. THIS WORK IS NOT PART OF THIS CONTRACT.

6.9.3.6. Low voltage secondary service ductlines shall be direct burial, thick wall type minimum. Concrete encase in vehicular traffic areas (including construction vehicular traffic areas).

6.9.3.7. Provide rigid galvanized steel conduit, for transitions from below to above grade. Fittings for steel conduit shall be steel threaded or compression type. Screw, clamp or other type fittings are not acceptable.

6.9.3.8. Provide secondary service cables to the secondary compartment of the transformer. The cables shall be clearly marked [color coded or taped] and sufficient of length to facilitate their connection to the secondary lugs of the transformer. SUS will install the cable terminators and connect to the transformer.

6.9.3.9. See Appendix C: UTILITY CONNECTIONS for additional information and requirements.

6.9.4. Exterior Lighting

6.9.4.1. Lighting within the Old Post Historic District must meet the requirements of the Old Post Historic District Design Guidelines

6.9.4.2. Design the site lighting for installation by SUS (under separate contract). Supply the site design to SUS for them to plan installation of supporting conduits, exterior lighting bases, and other equipment.

6.9.4.3. See Appendix C**:** UTILITY CONNECTIONS for additional information and requirements.

6.9.5. Site Telecommunications

6.9.5.1. Reference I3A Para 3.7.4.5. Connect to the OSP, extending a new duct line, maintenance hole and cable system to the building main communications room. Each ductline between maintenance holes shall be minimum 4-way 4-inch, Schedule 40 PVC conduits. Coordinate design, construction and connection point location with the installation NEC. Typical drawings required for design can be found in I3A figures C2 thru C6. Entrance ducts shall be a minimum of a 3-way 4-inch duct line to the building main communications room.

6.9.5.2. Do not use the last remaining duct in any pathway system/ductbank. Include one spare duct for maintenance purposes in any segment of pathway or duct bank design.

SAMPLE

6.9.5.3. Coordinate planning and design of outside plant communications systems on Fort Bragg with the Fort Bragg NEC. NEC will provide the following information and assistance for the proposed communication design

(a) Location of nearest fiber optic service and available strand count

(b) Location of the nearest copper service and available cable count

(c) Location of nearest maintenance hole, hand hole, or installation cable support infrastructure that can provide a duct tie-in point.

6.9.5.4. When no existing outside plant communications infrastructure is available near the proposed facility, the following requirements apply:

(a) Provide outside plant communications infrastructure from the nearest Area Distribution Node (ADN) or Remote Switch Unit (RSU).

(b) Provide a 3-way 4-inch duct line to the building main communications room. Use one duct to place the copper service cable. Use the second duct to place the fiber optic service cable along with one 3", 3 cell fabric mesh innerduct. The remaining duct is a spare.

6.9.5.5. Reference to I3A Para 3.7.8. Use Fabric Mesh Innerduct for duct and cable installations. Install 3 each, 3 inch, 3 cell fabric mesh with each fiber cable installation and in one of four newly installed ducts.

6.9.5.6. Reference I3A Fig C-5. Maintenance holes shall be 38YJ4 and shall include a moveable ladder.

6.9.5.7. Reference I3A, paragraph 3.7.1.3 (a). Size 30" maintenance hole lids are required unless otherwise specified or approved. Maintenance hole lids larger than the standard 30" size are extremely cumbersome when providing maintenance on cable infrastructure.

6.9.5.8. Outside Plant (OSP) Voice and Fiber Optic Service Cables: Provide OSP Voice and Fiber building service cables as follows:

(a) Extend all service cables through the new building service duct line.

(b) Terminate all OSP Voice Only service entrance cables on protected terminal blocks and all Fiber Optic cables on service entrance termination hardware located in the main communications room.

(c) Provide service entrance termination hardware for fiber optics service cables. Terminate the facility service data fiber optic cables on a patch panel, on 19-inch floor mounted standard racks. Terminate cables with 'SC' connectors at facility service entrance. Terminate the facility's data communication at an RJ45 patch panel in this rack. Provide patch cables (fiber and copper) and connect as required by NEC to meet I3A requirements.

(d) Demolish and remove any existing OSP cabling and communications duct bank no longer required on the project site.

6.9.6. Lightning Protection. Lightning risk assessment calculations shall be in accordance with NFPA 780, Appendix L, and other referenced criteria, utilizing the following variables:

6.9.6.1. Fort Bragg Lightning Flash Density Index "Ng" Value = 4

6.9.6.2. Determination of Environmental Coefficient Index "C1" = 1 (Isolated structure, no other structures located within a distance of 3H)

6.9.6.3. Determination of Structure Contents Coefficient Index "C3" Minimum value = 1 (Use larger if applicable)

6.9.6.4. Determination of Structural Occupancy Coefficient "C4" = 1 (Normally occupied)

6.9.6.5. Determination of Lightning Consequences Coefficient Index "C5" = 5 (Continuity of facility services required, no environmental impact.

6.9.6.6. Provide transient voltage surge protection.

6.10. FACILITY ELECTRICAL AND TELECOMMUNICATIONS SYSTEMS

SAMPLE

6.10.1. Coordinate all work with Fort Bragg NEC.

6.10.2. Voice/Data Communications

6.10.2.1. LAN Hubs shall be Government Furnished/Government Installed.

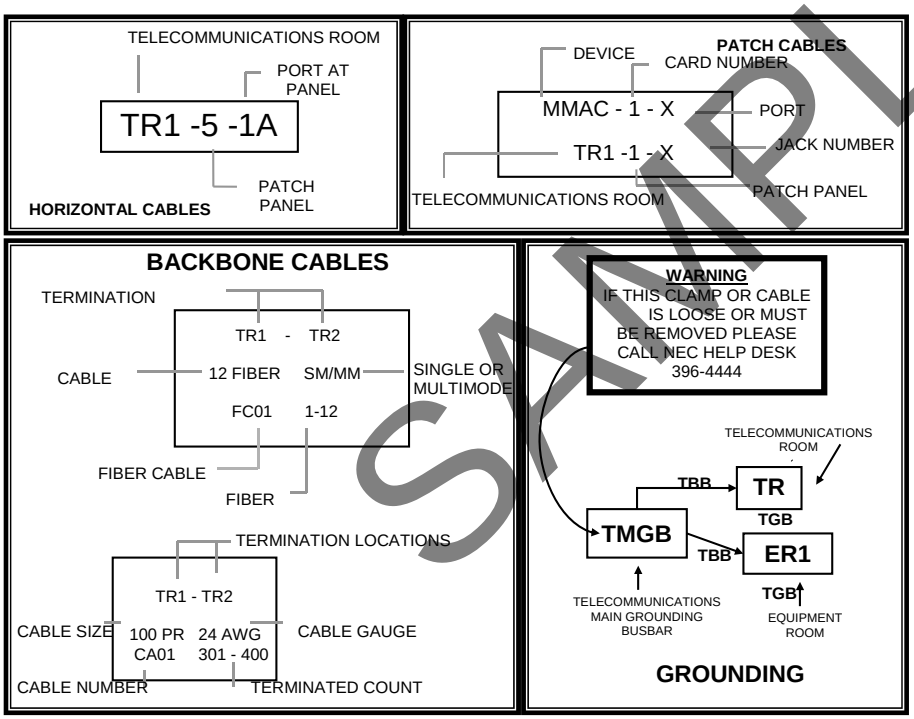
6.10.2.2. Provide a quadplex power outlet and voice/data communications outlet every eight (8) feet of open wall space to support modular training in one classroom.

6.10.2.3. Reference the I3A Technical Criteria, paragraph 2.5.6. Cover no less than two walls with AC fire rated plywood.

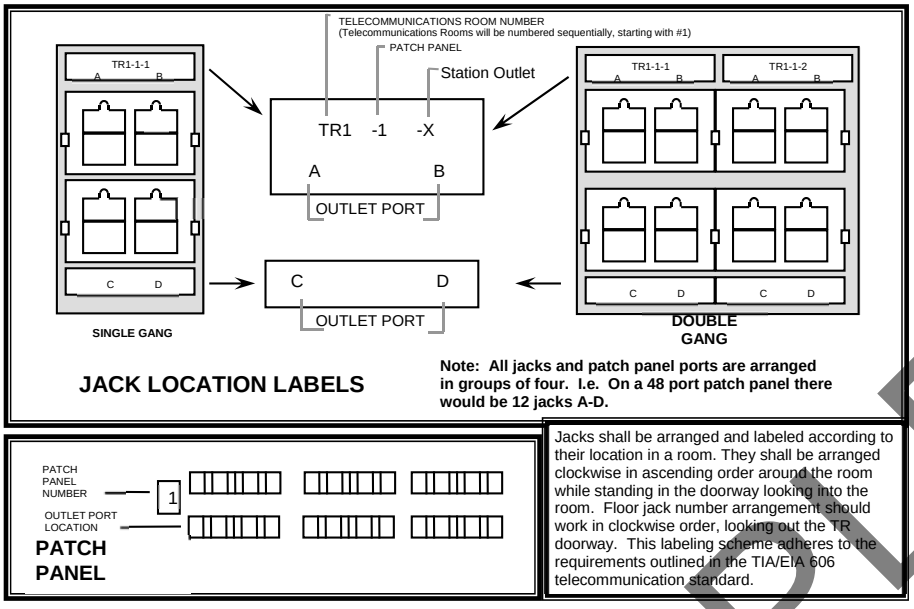
6.10.2.4. Reference the I3A Technical Criteria, paragraph 2.3.3.1. Wire all copper outlets, patch panels, and connectors per T568A.

6.10.2.5. Use the following Cable Jacket and RJ-45 Color Code:Green **-** The standard wire and jack color for UNCLASSIFIED. Red **-** The standard wire and jack color for CLASSIFIED (SECRET). Yellow **-** The standard wire and jack color for CLASSIFIED (TOP SECRET).

6.10.2.6. Label in accordance with the Fort Bragg standard labeling scheme shown below:



SAMPLE



6.10.3. Special Circuits – Fire Alarm and Utility Monitoring and Control Systems (UMCS).

6.10.3.1. Coordinate cabling and locations of demarcation points for all special circuits with DPW engineers or Emergency Services personnel for the associated discipline. Provide the premise cable design, installation and testing for all special circuits. Ft Bragg NEC responsibility for special circuit connectivity is at the Telecommunications Room only. Ft Bragg NEC is responsible for providing "IP" addresses for the special circuits along with any telecommunications room cross connects that will activate the circuit.

6.10.3.2. Terminate all special circuits to the first premise cable patch panel on ports 21-24, starting at 24 working in reverse. Label fire alarm circuits "FACP" and label Utility Monitoring & Control Systems circuits "UMCS".

6.10.4. SIPRNET (Where specifically applicable to Project – see paragraph 3)

6.10.4.1. The entire SIPRNET infrastructure including PDS, wiring, and equipment (except for the GFGI encrypted servers) installed under this contract (if applicable) shall meet the Technical Guide for Integration of SIPRNET version 5.0 as a Hardened Carrier PDS and the following requirements:

6.10.4.2. Mount Distribution Systems (PDS) lock boxes sixty seven (67) inches above the finished floor in all private offices, unless otherwise allowed in designated Controlled Access Areas (CAA) areas.

6.10.4.3. Submit all PDS design and material data sheets to the NEC for approval, prior to procurement or installation to save from costly revisions or change orders. Design the PDS in strict compliance with the national security criteria.

6.10.4.4. Install a Holocom, Wiremold/Legrand or other Central TEMPEST Technical Authority (CTTA) approved expandable type PDS System. The PDS System attributes shall include an interlocking "clam-shell" design that enhances security and flexibility in that it can be securely closed and locked, and then re-opened for security inspections and network changes or enhancements. The PDS must also include an electrostatic powder coating, which provides an aesthetically pleasing appearance.

SAMPLE

Per national security references, each agency, service, or organization is afforded interpretation and approval authority, by the Designated Approving Authority (DAA), per the respective manual when assessing any PDS design and installation methodology.

6.10.5. System Furniture:

Reference I3A paragraph 2.3.5.3. Ensure that telecommunication and power are installed in channels designed for such purpose. Do not install cables in panel gaps or interstitial space. Connect the furniture to the building cabling infrastructure through a ceiling mounted power pole, a wall mounted junction box (j-box) or underneath via a raised floor system and then channeled through the furniture. Do not expose cables between j-boxes and the furniture. Contain cables in flexible conduit. SIPRNET, if installed, shall enter through its own power pole system and channeled through an approved PDS. This configuration should provide all separation necessary to comply with TEMPEST requirements.

6.10.6. Elevators

Install conduit, wiring, and a telephone device as the emergency phone in the elevator cab. Government is responsible for making telephone operable including coordinating with the Ft Bragg NEC for service and connection to the Ft Bragg DES 911 Emergency Call Center.

6.10.7. Cable television (CATV).

Provide CATV in all private offices, conference, and classrooms. The cable television system shall consist of cabling, pathways, and outlets. All building CATV systems shall conform to APPLICABLE CRITERIA to include I3A criteria.

6.11. HEATING, VENTILATING, AND AIR CONDITIONING

6.11.1. The existing UMCS is an LCS-8520 that utilizes the LonWorks® Technology to integrate LNS databases into a single front-end. The UMCS is based on UFGS 25-10-10.

6.11.1.1. Fort Bragg's System Integration (SI) Contractor will integrate the building's BAS in accordance with UFGS 25-10-10 and the Fort Bragg UMCS Integration SOW, under separate contract with the Government. Coordinate through Fort Bragg's UMCS System Manager.

6.11.1.2. General Requirements

(a) Do not modify the chiller microprocessor supplied with the equipment. Control and safety functions should be the chiller manufacture's responsibility.

(b) Do not modify the boiler microprocessor supplied with the equipment. Control and safety functions should be the chiller manufacture's responsibility. If heating water systems are used, then design such systems to maintain the boiler manufacture's minimum temperature when in operation but vary the heating water supply temperature as required to meet the buildings requirements.

(c) Provide all DDC software, equipment and devices from a single common manufacturer whenever possible.

6.11.2. Mechanical Equipment Maintenance and Accessibility Requirements

6.11.2.1. Selected mechanical systems must be compatible with the existing systems and composed of standard commercially available items with readily available service and repair parts.

6.11.2.2. Any mechanical rooms above the first floor shall have an external access (door, removable louvers, etc of ample size such that the largest piece of installed equipment could be removed through the opening.

6.11.2.3. Install all piping, except individual fixture pipes, to permit equipment access without requiring removal of permanent walls, floor, or ceilings.

SAMPLE

6.11.2.4. Arrange all equipment, piping, etc in mechanical rooms so that each piece of equipment can be removed without having to remove any other piece of equipment. Consider things such as coil pull areas in the mechanical room layouts.

6.11.2.5. Chillers: Chillers shall include as a minimum the following features

(a) Scroll or screw type compressors with 5-year parts warranty

(b) Microprocessor controllers with self-diagnostic capabilities

(c) Low ambient controls to zero (0) degrees F.

6.11.2.6. Fuels

Natural gas is the preferred fuel source for heating.

6.11.2.7. Pumps

(a) Hot Water and Chilled Water pumps shall operate at 1,750 rpm or less

(b) Mechanical Rooms: Heat to 40 F for freeze protection where piping may be subject to freezing.

6.11.3. Site Mechanical Equipment. Design all exterior mechanical equipment to be compatible with existing mechanical equipment within the surrounding area. This includes color and screening.

6.11.4. Outdoor Design Conditions

«HVAC»

6.12. ENERGY CONSERVATION

6.12.1. Inclusion of Renewable Energy Features. The following renewable energy features have been determined lifecycle cost effective, are included in the project budget and shall be provided:

«RENEWABLE_ENERGY_FEATURES»

6.13. FIRE PROTECTION

6.13.1. Provide fire extinguisher cabinets and brackets when fire extinguishers are required by UFC 3-600-01 and NFPA 101. Place cabinets and brackets shall in accordance with NFPA 10.

6.13.2. Provide semi-recessed cabinets in finished areas and brackets in non-finished areas (such as utility rooms, storage rooms, shops and vehicle bays).

6.13.3. Fire Extinguishers are Government Furnished/Government Installed for this project. Advise Government of required size and type Fire Extinguisher for each type building and service location

6.13.4. Fire Alarm System. Fire alarm panels must be addressable and must be able to communicate alarms to the Honeywell Enterprise Building Integrator System (EBI) located at the Fort Bragg 911 Center. Coordinate fire alarm zone descriptions and number with the fire department. (Single-story buildings typically require a minimum of 8 to 11 fire alarm zones; each floor above the first floor requires an additional 6 fire alarm zones.) Manual pull stations shall be metal, double action type, and shall not use break rods.

6.13.5. Mass Notification System

6.13.5.1. Provide a combined system that performs both as an individual building MNS and as the building Fire Alarm voice evacuation system. The MNS shall communicate with the base wide system. The base wide system is by Federal Signal and communication is by wireless transmission.

6.13.5.2. In addition to the applicable references and design criteria in paragraphs 4 and 5, see Appendix F for Fort Bragg Implementation Directions to Building Mass Notifications Specifications and Installation Guidelines

Comment [sdn6]: NOTE TO SPECIFIER: In accordance with paragraph 5.9.2, provide the outdoor design conditions that are referred to in paragraph 2.2 in UFC 3-410-01FA.

Comment [sdn7]: Indicate here all renewable energy features that are included in project DD1391 and supported by LCCA. Be specific in description of features.

SAMPLE

6.14. SUSTAINABLE DESIGN

6.14.1. LEED Rating Tool Version. This project shall be executed using «LEED_VERSION».

6.14.2. *<ONLY_EXEMPT>*LEED Minimum Rating. This project includes no facilities that are required to achieve a specific LEED achievement level. Project shall achieve and document all points required by other portions of the RFP and all points that are feasible, but there is no minimum required LEED achievement level.*</ONLY_EXEMPT><NOT_ONLY_EXEMPT>* The minimum requirement for this project is to achieve LEED «LEED_MIN» level. Each non-exempt facility (building plus sitework) must achieve this level. In addition to any facilities indicated as exempt in paragraph 3, the following facilities are exempt from the minimum LEED achievement requirement: «SD_EXEMPT_FACILITIES».*</NOT_ONLY_EXEMPT>*

6.14.3. *<SINGLECO>*Credit Validation: LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». *<USGBC>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is required. The Contractor will obtain LEED certification prior to project closeout. Application, payment of certification of fees and all coordination with USGBC during the certification process will be by the Contractor. GBCI interim review of design phase data is not required by the Government but is recommended. Government validation during project execution does not relieve or modify in any way the Contractor's responsibility to satisfy all requirements for certification as defined by LEED and GBCI. Contractor is not responsible for design phase LEED documentation of any unaltered portion of the design that is accomplished by others. If the project includes unaltered complete design by others, during the certification process Contractor will coordinate all GBCI comments on LEED credits that fall outside Contractor's scope of responsibility with the Government for coordination with the Designer of Record, and Contractor will not be penalized if project fails to achieve certification at the minimum required level due to loss of credits that are the responsibility of others.*</USGBC><USGBC_NO>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with the GBCI and the Contractor will furnish audit data as requested at no additional cost.*</USGBC_NO> </SINGLECO><SITE_BLDGOTHER>*Credit Validation: The project is the site work *<ADDITIONAL>*and building(s)*</ADDITIONAL>* portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required Registration and payment of registration fees will be by the «FEES_PAID_BY». *<ADMINGOV>*Administration/team management of the online project will be by the Government.*</ADMINGOV><ADMINSHARED>*Administration/team management of the online project will be shared between the Contractor and the Government per Appendix LEED Requirements for Multiple Contractor Combined Projects.*</ADMINSHARED> <ADMINCONTRACTOR>*Administration/team management of the online project will be by the Contractor per Appendix LEED Requirements for Multiple Contractor Combined Projects. *</ADMINCONTRACTOR>*Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</SITE_BLDGOTHER><STDANDSITE>*Credit Validation: The project is a standard design building(s) portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». See Appendix LEED Requirements for Multiple Contractor Combined Projects for information about registered standard designs. Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</STDANDSITE><NSTDMULTI>*Credit Validation: The project is a non-standard design building(s) portion of a multiple contractor Combined Project. LEED registration, compiling of documentation at LEED OnLine and use of the LEED Letter Templates is required. Registration and payment of registration fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». Validation of credits will be accomplished by the Government. LEED certification of the project by the Contractor is not required. The Government may choose to seek LEED certification of the project, in which case the Government will pay certification fees and coordinate with GBCI and the Contractor will furnish audit data as requested at no additional cost.*</NSTDMULTI><ONLY_EXEMPT>*Credit Validation: LEED registration, compiling of documentation at

Comment [sdn8]: [LEED-NC Version 2.2][LEED-NC Version 3][*text block for other to be filled in by specifier*]

Comment [sdn9]: [Silver][Gold][Platinum]

Comment [sdn10]: Select paragraph below if the project includes COS standard design buildings and a single contractor is doing all buildings and site work in the project. Edit for either Contractor or Government fees and administration (PDT choice). Registration is required.

Comment [sdn11]: Select paragraph below if the project includes the site work for COS standard design buildings by others. Include bracketed text in first sentence as applicable if project also includes standard design and/or non-standard design buildings in addition to site work for COS buildings by others. Registration and fees may be either by Contractor or Government (PDT choice). Administration may be by Government or shared - Contractor administers until construction phase, when Government must take over administration in order to compile and summarize data from the other contractors (PDT choice).

Comment [sdn12]: Select paragraph below if the project includes COS standard design building(s) only and site work is by others. If only a single contractor will ever be working on all the projects for a particular standard design, the COS may require the Contractor to register the standard design as part of the initial project and administer the online standard design on all subsequent projects. If multiple contractors will be working on projects for a particular standard design, registration and administration must be by the Government (COS).

Comment [sdn13]: Select paragraph below if the project includes non-standard design building(s) only and site work and COS standard design buildings are by others. Edit for either Contractor or Government fees and administration (PDT choice).

Comment [sdn14]: Select paragraph below if the project ONLY has exempt facilities and is not required to achieve LEED Silver.

SAMPLE

LEED OnLine and use of the LEED Letter Templates is *<CREDIT_NO>*not required. Contractor has the option to register the project, compiling of documentation at LEED OnLine and use the LEED Letter Templates. In this case, payment of registration fees and administration/team management of the online project will be by the Contractor.*</CREDIT_NO><CREDIT>*required. Registration and payment of fees will be by the «FEES_PAID_BY». Administration/team management of the online project will be by the «ADMIN_PERFORMED_BY». *</CREDIT></ONLY_EXEMPT>*

6.14.4. Commissioning: See Appendix M for Owner's Project Requirements document(s).

6.14.5. LEED Credits Coordination. The following information is provided relative to Sustainable Sites and other credits. *<MULTI_NOT>*

SS Credit 1 Site Selection:

Project site **«FARMLAND»** considered prime farmland.

*<FLOOD1>*Project site is five feet or more above 100-year flood elevation.*</FLOOD1><FLOOD2>*Delineation of 100-year flood elevation is shown on site drawings provided in this CONTRACT.*</FLOOD2>*

*<HABITAT1>*Project site contains no habitat for threatened or endangered species.*</HABITAT1><HABITAT2>*Delineation of threatened or endangered species habitat is shown on site drawings provided in this CONTRACT.*</HABITAT2>*

*<WETLAND1>*No portion of project site lies within 100 feet of any water, wetlands or areas of special concern.*</WETLAND1><WETLAND2>*Delineation of water, wetlands and areas of special concern is shown on site drawings provided in this CONTRACT.*</WETLAND2>*

Project site **«PARKLAND»** previously used as public parkland.

SS Credit 2 Development Density & Community Connectivity.

Project site **«DENSITY»** meets the criteria for this credit.

SS Credit 3 Brownfield Redevelopment.

Project site **«BROWN»** meets the criteria for this credit.

SS Credit 4.1 Public Transportation Access.

Project site **«TRANS»** meets the criteria for this credit.

EA Credit 6 Green Power.

35% of the project's electricity **«GREEN»** be provided through an Installation renewable energy contract. Do not purchase Renewable Energy Credits (REC's) to earn this credit.

*</MULTI_NOT>***MR Credit 2 Construction Waste Management.**

The Installation *<DOESNOT>*does not have an on-post recycling facility available for Contractor's use.*</DOESNOT><DOES>*has an on-post recycling facility.*</DOES> <CONTACT_KNOWN>*Contact «CONSTRUCTION_WASTE_CONTACT» for information about materials accepted.*</CONTACT_KNOWN><LEED3>*

Regional Priority Credits (Version 3 only)

The project zip code is «ZIP_CODE».*</LEED3>*

*<MULTIPLE>*See LEED Multiple Contractor Responsibilities Table(s) for additional information.*</MULTIPLE>*

Comment [sdn15]: Attach Owner Project Requirements (OPR) document for each climate controlled facility/facility type in the project. Obtain OPR for Standard Designs from COS. Develop OPR for each non-standard facility using USACE template at http://en.sas.usace.army.mil. Refer to SOW whenever possible in this document to avoid conflict with SOW.

Comment [sdn16]: If site work and building(s) are by separate contractors, this is a MULTIPLE CONTRACTOR COMBINED PROJECT and you should skip to the MR2 section (edit to indicate whether buildings or site is by others and identify the buildings by others).

SAMPLE

6.14.6. LEED Credit Preferences, Guidance and Resources. See Appendix L LEED Project Credit Guidance for supplemental information relating to individual credits.

6.14.7. ***<MULTI_NOT>***Not Used***</MULTI_NOT><MULTIPLE>***Multiple Contractor Combined Project. When site work and building(s) are accomplished by separate contractors, it is a Multiple Contractor Combined Project for purposes of LEED scoring and documentation. This project is part of a Multiple Contractor Combined Project that includes site work and building(s) accomplished by separate contractors. See Appendix LEED Requirements for Multiple Contractor Combined Projects and Appendix LEED Multiple Contractor Responsibilities Table(s) for special requirements for this project.***</MULTIPLE>***

6.14.8. For all Fort Bragg projects using LEED Online, invite the following individuals at the beginning of the project, assigned QA/QC role: Lynda.s.pfau.ctr@mail.mil, Judith.f.milton@usace.army.mil, Stephen.d.bentley@usace.army.mil, Savannah District Project Manager, Fort Bragg Project Manager (name varies - coordinate at kickoff meeting).~~thomas.s.blue@us.army.mil to join the LEED online project at beginning of project. No team assignment is needed once he joins, as he is a reviewer.~~

6.14.8.1. Additional Information

«MR2»

6.15. ENVIRONMENTAL

6.15.1. Spill Response Procedure and Plan

6.15.1.1. Notify the Fire Department immediately in the event of a hazardous spill. The first person on-scene that identifies the hazard must notify the Fire Department – this may or may not be the designated POC.

6.15.1.2. After notifying the Fire Department, call the DPW Environmental Compliance Branch and the Contracting Officer.

6.15.1.3. The Fort Bragg Fire Department and DPW Environmental Compliance Branch are responsible for any off-installation notification.

6.15.1.4. Provide a Spill Response Plan for review. Include a list of reporting channels, telephone numbers, a listing of the hazardous materials stored on site, copies of Material Safety Data Sheets for the hazardous materials, and a site diagram outlining where the storage sites are located. Train all supervisors on site in the execution of the Spill Plan. Document all training.

6.15.2. Wetlands and Stream Crossing

6.15.2.1. Do not enter, disturb, or allow any discharge (soil, sediment, and/or pollutants) into any wetlands.

6.15.2.2. Comply with all local, state, and federal laws and regulations pertaining to the protection of wetlands under the CWA Section 404/401 regulatory program and North Carolina DENR Division of Water Quality.

6.15.2.3. If wetland impacts are unavoidable, abide by CWA Section 404 regulatory program and apply for applicable wetland permits. All wetland permit costs, delineations, and compensatory mitigation costs will be the contractor's responsibility.

6.15.2.4. Comply with avoidance, minimization strategies prior to approval of any wetland impact in accordance with CWA Section 404 (CWA 33 USC 1344).

6.15.2.5. All stream crossings will avoid impacts to navigable waters and wetlands. Do not enter, disturb, destroy, or allow discharge (fill) of soil, sediment, or contaminants into the stream.

6.15.2.6. Comply with all local, State, and Federal laws and regulations pertaining to the protection of surface waters to include but not limited to lakes, ponds, streams, creeks, rivers, and bayous.

Comment [sdn17]: If site work and building(s) are accomplished by separate contractors, identify the project as a Combined Project

If site work and building(s) are accomplished by separate contractors, include general instructions on how LEED is handled for Combined Projects (standard text appendix LEED Requirements for Multiple Contractor Combined Projects), (STANDARD APPENDIX "N" IN WIZARD)

If site work and building(s) are accomplished by separate contractors, include LEED Strategy Tables (STANDARD APPENDIX "O" IN WIZARD), which indicate the status of site selection points, establish the number of points each contractor must earn relative to each building, and establish each contractor's requirements for shared building/site points.

If site work and building(s) are by separate contractors, add the MULTIPLE CONTRACTOR COMBINED PROJECT paragraph below.

Comment [sdn18]: Indicate here all project-specific differences from the default assumptions in Appendix L. For Multiple Contractor Combined Projects, describe here the other contacts and buildings in the combined project.

SAMPLE

6.15.3. Safety and Health Requirements for Construction Activities

6.15.3.1. Work performed under this contract shall comply with EM 385-1-1, specifically 28.A, applicable Federal, State, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, CFR 29 Part 1910, especially Section .120, "Hazardous Waste Site Operations and Emergency Response" and CFR 29 Part 1926, especially Section .65, "Hazardous Waste Site Operations and Emergency Response". Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this contract, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

6.15.3.2. Ensure that all subsurface disturbing activities are monitored by a competent person using a direct reading instrument capable of detecting any VOCs that may be released.

6.15.3.3. Develop a Site Safety and Health Plan (SSHP) to cover the safety and health aspects of the subsurface contamination detailed in Section 6.12.1, which may be encountered during the execution of this project. In some areas the Contractor may encounter contaminated groundwater which may need to be dewatered to execute construction activities. Although the contamination is in the soil, VOC vapors may also be released during excavation of footers, utility trenches, and other subsurface disturbing activities.

6.15.3.4. The Savannah District Safety and Occupational Health Office are required to review and accept the Site Safety and Health Plan. In addition to the requirements detailed in 385-1-1 28.A, submit the following as part of the SSHP: Certifications of Hazard Waste Site Training and Experience, Medical Clearances, and Licenses. Do not submit materials with full social security numbers or personal medical data. Black out this information.

6.15.4. Dewatering

6.15.4.1. If dewatering of excavations is required, the water being removed shall be considered as contaminated with SVOCs and/or VOCs.

6.15.4.2. Fort Bragg Directorate of Public Works Environmental Compliance Branch (DPW-ECB) and Water Management Branch (WMB) must approve the specific structural stormwater management measures.

6.15.4.3. All stormwater management requirements apply to dewatering activities, materials, and water. All OSHA health and safety requirements apply to dewatering activities.

6.15.5. ***<CONTAMINATION_NO>***Not used.***</CONTAMINATION_NO><CONTAMINATION>*** Vapor Mitigation Design Requirements

Comment [hjk19]: NEW SPECIFIER SELECTION:
Does this project have known site contamination?

RADIO CHOICES:

"No."

"Yes."

6.15.5.1. Design and install a passive vapor intrusion mitigation system under all buildings that have soil and/or groundwater contamination. The system shall follow the guidelines presented in U.S. Environmental Protection Agency Radon Mitigation Standards (EPA 402-R-93-078) and Radon Prevention in the Design and Construction of Schools and Other Large Buildings (EPA/625/R-92/016).

6.15.5.2. Although this guidance addresses radon mitigation, the same principles can be applied to volatile organic compound (VOCs) and semi-volatile organic (SVOCs) vapors.

(a) Ensure that all materials used shall be compatible with VOCs and SVOCs. This includes but is not limited to the liner, caulking, sealants, piping and all other materials.

(b) Ensure that the system installed meets or exceeds the expected life-use of the buildings it is installed in. The design shall consider protection of roof-top venting from the elements such as heavy rains, winds, etc., and locate a safe distance from all fresh air intakes.

(c) Leak test or construct the system in such a manner that leaks cannot occur within the building. Submit documentation of system integrity to the Contracting Officer's Representative.***</CONTAMINATION>***

6.15.6. Existing Monitoring Wells

SAMPLE

6.15.6.1. Should any wells be damaged, or found to be placed in an area where they will become damaged, contact the USACE project manager for directions on how to close and where to re-install the wells. Close and reinstall GW monitoring wells at no additional cost to the Government. For further information, reference Fort Bragg's Standing Operating Procedure (SOP) #6003.

6.15.6.2. Protect all groundwater monitoring wells at construction sites with known contaminated areas.

6.15.6.3. Raise the tops of or lower existing monitoring wells located in pavements and sidewalks to meet new finished grades and replace the tops with vehicle rated tops.

6.15.6.4. Relocate ground-water monitoring wells located within building footprints only after written approval from the State and the Contracting Officer.

6.15.6.5. Repair or replace any monitoring wells damaged as a result of construction at the Contractor's expense.

6.15.7. Contractor Generated Spills

(a) Manage, store, dispose and dispense petroleum products, hazardous materials, and hazardous wastes according to all Federal, state, and local regulations (including Fort Bragg Regulations 200-1, 200-2, and 200-3).

(b) Transport generated hazardous waste off Government property to a permitted transportation, storage, and disposal facility (TSDF).

(c) Coordinate with the DPW Environmental Compliance Branch Hazardous Waste Program Manager to obtain the EPA ID number for the standard manifest. Hazardous waste cannot leave the installation without the designated representative from the DPW Environmental Office signing and obtaining a copy of the manifest.

6.15.8. Historic Properties. Inadvertent Discovery of Cultural Material. If any artifacts or objects related to cultural resources become evident during construction or construction-related activity, ,stop ground disturbing activities immediately and notify the Contracting Officer and the Fort Bragg Cultural Resources Program Manager at 910-396-6680. Cultural resource objects or artifacts include but are not limited to: bone, shell, stone tools, ceramics, bottle glass as well as metal objects relating to any time period before 1950 but excluding post-1940 military training debris (e.g. shell casings, shrapnel, wire etc.

6.16. PERMITS

6.16.1. The Government has not obtained any permits/licenses related to this project.

6.16.2. Obtain ALL applicable permits as part of the design process and secure ALL permits necessary for construction of the project. Determine fee basis and pay all filing fees at no additional cost to the Government.

6.16.3. Comply with provisions of the Installation permits, compliance agreements, plans with regulating authorities/agencies.

6.16.4. Submit copies of permits to the Contracting Officer and Ft Bragg Environmental Division in sufficient time to allow for review and revision with ultimate submittal 10 days prior for the associated permitted activity. Provide copies of permit amendments to the Contracting Officer representative and Ft Bragg Environmental Division.

6.16.5. Erosion and Sediment control ((E&SC) Permit: After issuance by , NC DENR Department of Water Quality (DWQ), changes to the issued permit are prohibited.

6.16.6. Water and Sanitary Sewer Permit. ONUS, as the Fort Bragg water and sewer privatization contractor, is responsible for all aspects of obtaining and closing the potable water and sanitary sewer permits for this project.

6.16.7. Borrow Pit Permit. A permit is required to use the Fort Bragg soil borrow material pits. Process soil borrow pit permits with the Environmental Branch of the Directorate of Public Works Environmental Sustainment Division through the Contracting Officer Representative.

(a) Permits are issued for the life of the contract only.

SAMPLE

(b) Borrow material may only be used on the project for which the permit(s) are issued.

(c) Keep a copy of the signed permit with the borrow hauling vehicle throughout the borrow operation period.

(d) Copies of the borrow permit can be found in Appendix DD.

6.16.8. Construction and Demolition (C&D) Waste

6.16.8.1. Obtain and pay for all permits associated with demolition.

6.16.8.2. Landfill tipping fees for construction debris «PERMITS_CHARGED» be charged to the Contractor at time of award contract. If applicable, the landfill tipping fees are identified in Appendix CC.

Comment [sdn20]: [will] [not]

6.16.8.3. Construction and Demolition (C&D) permit is required to use the Fort Bragg LaMont Road Construction and Demolition Landfill Facility (Permit No 26-08). Follow requirements identified at http://www.bragg.army.mil/envbr/solidwaste.aspx regarding disposal of inert construction and demolition waste in the Ft Bragg C& D landfill sites.

(a) Process the Construction and Demolition (C&D) permit with the Environmental Branch of the Directorate of Public Works Environmental Sustainment Division through the Contracting Officer Representative.

(b) Permits are issued for the life of the contract only.

(c) Only materials produced on the project for which the permit(s) are issued may be disposed of in the land clearing and inert debris/demolition landfills.

(d) Keep a copy of the signed permit with the hauling vehicle(s) throughout the borrow operation period.

(e) Copies of the disposal permit can be found in Appendix CC.

(f) Obtain and pay for all permits associated with demolition.

(g) The contractor is encouraged to recycle commodities through the Ft. Bragg QRP.

6.16.9. Fort Bragg Excavation (Dig) Permits

6.16.9.1. Present an Excavation Permit, FB Form 1605, to the Resident Engineer for approval by the Facilities Engineer prior to any excavation that penetrates the ground by 6 or more inches. A sample of this form is included at Appendix HH or can be obtained from the Resident Office upon request.

6.16.9.2. Spot all utility lines using an independent spotting service prior to beginning excavation. Keep a signed copy of the digging permit on site at all times. Fort Bragg may conduct back check spotting excavation during the excavation portion of this contract.

6.16.10. Title V Air Permits

6.16.10.1. Coordinate with Fort Bragg's Environmental Branch, point-of-contact (POC) Gary Cullen (910-432-8464), Air Program Manager, in obtaining all required and applicable permits as part of the design process. Secure all permits necessary for construction of this project to include the purchase of any add-on emission control devices (if applicable) associated with this project, and at no additional cost to the Government.

6.16.10.2. Fort Bragg operates under a Title V Air Permit for air quality requirements. Perform a regulatory review of all air sources in the project and submit for approval to the Environmental Compliance Branch (ECB).

(a) New sources must be reviewed for Prevention of Significant Deterioration (PSD) applicability. Each Congressional Appropriation is defined as one project. Additionally, new sources must be reviewed for NESHAP (National Emissions Standards for Hazardous Air Pollutants) applicability.

(b) Develop required air permit application(s) and/or coordinate with ECB on any on-going permit applications.

(c) Pay all Air Permitting fees to NCDENR (North Carolina Department of Environment and Natural Resources). Obtain all required permits prior to construction of any new sources.

SAMPLE

(d) Comply with all State regulatory requirements for boilers fired by either natural gas or distillate oil. Ensure that the boiler(s) is included in the Installations Title V Air Permit.

(e) New boilers with input greater than 10 million BTU/hr shall meet 40 CFR Part 60, New Source Performance Standards.

(f) All new boilers shall include low NOx burners.

(g) Obtain an air permit for each type of material (i.e. concrete, rock crushing, and asphalt batch plants) that will produce dust and other harmful particulates within the boundaries of the installation.

(h) The Contractor may not unilaterally change the Installation's Title V Air Permit. Coordinate any and all changes/modifications through the designated Environmental Branch staff.

6.16.10.3. Air Permit Submittal Requirements (Boilers and Domestic Water Heaters). Pursuant to satisfying requirements under the Clean Air Act, at or before the 60 percent design stage, submit the following to the installation's environmental office, point-of-contact (POC) Gary Cullen , Air Program Manager:

(a) A listing of boilers and domestic hot water heaters that will be fired by natural gas, propane, and/or fuel oil

(b) The fuel or fuels (primary and backup, if applicable) that will be utilized for each piece of equipment

(c) The quantity of each particular size

(d) The respective input firing rate.

(e) Provide a point of contact and an alternate point of contact, should the environmental office require additional information from the designer of record during the permitting process.

(f) Send two copies of the document to the Savannah District: one to the Project Manager for placement in Central Files, and another to the Mechanical Section.

6.16.10.4. Document Changes

(a) Do not send the Air Permit prematurely, since any increase in boiler sizing subsequent to submission of the document will require revision to the permitting process,

(b) If there is a change in equipment sizing during refinement of the design process, submit an updated copy of said document.

6.16.10.5. Incorporate the equipment accessories required for compliance with the governing environmental laws into the design. This includes, but is not limited to, determining the need for individual metering and the level of emissions monitoring required.

6.16.10.6. The interim design narrative shall specifically address those features that will be incorporated into the boiler system design to assure compliance with the applicable environmental laws of the State.

6.16.10.7. Normally, for fast track design-build contracts, the Air Permit construction permit will not have been obtained prior to award of the design-build contract.

(a) No construction associated with the building(s) housing the boiler(s) or other source(s) of contaminant can be done prior to obtaining the required permit.

(b) The following things can be done prior to possession of the permit: clearing and grading, access roads, driveways, parking lots, underground utilities up to the 5-foot line of the buildings, and ancillary structures (structures not associated with housing the sources of contaminants).

6.16.10.8. If the use of temporary rental or leased equipment is required during demolition, renovation, or construction of the project, the emissions from those pieces of equipment need to be qualitatively and quantitatively reviewed for air quality permitting requirements.

(a) Assess those needs and any permitting required will be the responsibility of the contractor.

(b) Contractor is responsible for any permitting fees or resulting permit compliance associated with the temporary equipment. Examples include the use of temporary electrical generators, boilers, painting operations, abrasive blasting operations etc. to support the project. Per 15A NCAC 2D .0300

SAMPLE

6.16.11. State of North Carolina Required Applications and Permits. Prepare, sign, and submit the following list of commonly required State of North Carolina applications and permits for Fort Bragg projects

6.16.11.1. North Carolina State Demolition Permits

6.16.11.2. North Carolina State Asbestos Removal Permit

«PERMITS»

6.16.11.3. North Carolina Erosion and Sedimentation Control Permit. Create and implement an Erosion and Sedimentation Control (ESC) Plan that conforms to the Fort Bragg EPA Construction General Permit, and local erosion and sedimentation control standards/ codes in effect at the time of award.

6.16.11.4. North Carolina General Permit to Discharge Stormwater under the National Pollutant Discharge Elimination System

6.16.11.5. North Carolina Stormwater Management Permit Application Form

6.16.11.6. North Carolina Notice of Intent (NOI) and Notice of Termination (NOT) Documents. Prepare, sign, and submit the NOI and NOT documents to the State of North Carolina.

6.16.11.7. Obtain any North Carolina additional applications and permits not listed as required for the construction of this project.

6.17. DEMOLITION

6.17.1. The Government will identify buildings and other existing features to be demolished in the site plans, as applicable to the project. Demolish building(s)and other demolition work within the construction footprint to include demolition, asbestos containing materials (ACM) abatement and hazardous building materials (HBM) removal, removal of foundations, capping underground utilities (water, sewer, natural gas, heating and chilled water, etc.) and other site improvements. Comply with Federal, State and local statutes, ordinances agreements and as described in this RFP.

(a) The Contractor «DEMOLITION_AUTHORIZED» authorized to perform a full remediation of the site under this Contract.

Comment [sdn21]: [is] [is not]

6.17.2. Copies of ACM and HBM surveys are included in the RFP in Appendix AA, where applicable to the project.

6.17.3. The construction and waste management plan shall identify the materials to be diverted from disposal and sorted onsite.

6.17.4. In the case of buildings that are in the direct footprint of the project, the Government will move demolition building occupants and furnishings prior to the Contract NTP date except where movement is not in the best interests of the Government. Such cases will be identified in the Contract.

6.17.5. Notify Directorate of Public Works (DPW) through service orders (Telephone 910-396-0321) to disconnect all utilities to demolition buildings to include electricity, natural gas, propane gas, and fuel oil.

6.17.6. Demolition of potable or fire water mains and lines or sanitary sewer mains and lines.

«ONUS_CONTRACTOR_REQUIREMENTS»

Comment [sdn22]: NOTE TO SPECIFIER: Describe whether ONUS under separate contract with the Government or the Contractor must disconnect, cap and/or demolish water and sewer mains and/or lines. Be specific about whether the cost for ONUS is or isn't to be included in the contract price .If not applicable to this project, state N/A.

6.17.7. If the Contractor plans to use a demolition building for administrative or storage:

6.17.7.1. Notify the Government through the Corps of Engineers in writing of their intent during contract negotiations.

6.17.7.2. DPW will disconnect utility services, but not remove them.

SAMPLE

6.17.7.3. The Contractor is responsible for installing appropriate electrical, water, and gas meters for the building. If connecting to privatized utility (water, gas, or sewer), contractor must coordinated with privatized utility company for installation of services. All costs associated with the connection shall be paid for by the contractor

6.17.7.4. DPW will reconnect the metered services upon notification by Corps of Engineers.

6.17.7.5. The government bears no responsibility for the condition of the demolition buildings between the Request for Proposal (RFP) and the contract or task order Notice to Proceed (NTP) date.

6.17.7.6. The Government maintains the right to salvage all materials from the building until the NTP date.

6.17.8. Assume that all demolition buildings will have no salvage value.

6.17.9. Do not assume that any building within the project footprint can be an administrative or storage building. If a building is missing structural components (windows, doors, etc), equipment (commodes, sinks, HVAC units, etc) or utilities (electricity, water, natural gas, fuel oil), it is the Contractor's responsibility to restore these components to make the building habitable for their use.

6.17.10. DPW will notify NEC to disconnect government telephone and CATV service to buildings.

6.17.11. DPW will notify CENTURYLINK / Time Warner to disconnect privately owned telephone and CATV service to buildings.

6.17.12. Fort Bragg DPW charges three hundred dollars ($300.00) per building to disconnect utilities.

6.17.13. Fill depressions caused by the removal of demolished materials such as building foundations, pavements, sidewalks, utility lines and pad, etc., to grade, compacted per soil compaction requirements, and slope to drain towards the nearest appropriate structural stormwater management measure.

6.17.14. If fuel contaminated soils are found during the demolition or cut/fill operations, cease work immediately and notify either the Contracting Officer representative or the Contracting Officer for resolution that can include removal of contaminated soil, filling and capping area with clean, uncontaminated soil.

6.17.15. Asbestos/Hazardous Material Removal

6.17.15.1. The Contracting Officer representative will provide copies of all asbestos inspection reports, permits and disposal documents and Asbestos Removal, Transportation, and Disposal Documentation Forms to the ECB Asbestos Program Manager. North Carolina accredited personnel must perform all asbestos activities.

6.17.15.2. Dispose of all abated ACM in accordance with all Federal, State, and local regulations at the Fort Bragg Landfill on LaMont Road.

6.17.15.3. If asbestos/ lead based paint/ hazardous materials are positively identified during building or site demolition, cease work immediately and notify either the Contracting Officer representative or the Contracting Officer for resolution.

6.17.16. Utility Demolition

6.17.16.1. Coordinate with the privatized electrical company (Sandhills Utilities Services), privatized water/sewer company (Old North Utility Service), Directorate of Information Management, and Directorate of Public Works during design phase and before construction.

6.17.16.2. Completely remove and cap existing utilities located beneath new building footprints (if abandoned) or reroute if utilities are being used by existing buildings. Coordinate demolition of existing utilities serving occupied buildings with construction of new utilities so that utilities to occupied buildings remain in service at all times.

6.17.17. AST/UST Demolition

SAMPLE

6.17.17.1. The project area may be located in a «DEMOLITION_CONTAMINATION» contaminated area. Typical contamination constituents are from former heating oil and diesel underground storage tanks (USTs). Other sources of soil and groundwater contamination are old unlined dump sites and aboveground storage tank (AST) spill sites.

Comment [sdn23]: [KNOWN] OR [UNKNOWN]

6.17.17.2. The location of USTs removed by others is provided to the Contractor as "Information Only", and may not be complete. If an unknown underground storage tank is discovered during construction, please adhere to Appendix MM. If an unknown tank meets the criteria for a Differing Site Condition under said contract clause, the clause provides an equitable adjustment for increased costs and/or delays associated with discovery and removal.

6.17.17.3. Remove and dispose of Underground Storage Tanks (UST) identified as “closed in place”. Remove and dispose of tanks and all remaining appurtenances, preferably, at a recycling center.

6.17.17.4. Fort Bragg requires that all tanks have a closure report stating the size, condition, and final disposition of the tank.

6.17.17.5. Non-leaking heating tanks are not regulated by the State of North Carolina. However, should it be discovered that there were leaks or that free product is present, complete and submit to the Contracting Officer a closure report that is in accordance with North Carolina regulations.

6.17.17.6. Although the Government will furnish all site investigations and reports documenting project area contamination, the possibility exists that soils with previously-unknown contamination may be discovered. Appendix MME addresses this situation.

6.17.17.7. Pump out and dispose of any free product/sediment that is in the tank and remove up to 140 cubic yards of contaminated soil per UST. All fill must be clean and replaced to grade. Clean fill is defined as any soil removed from the excavation that is less than 10 pap (North Carolina UST action level).

6.17.17.8. Where applicable, remove Above Ground Storage Tanks (AST) and deliver to DPW for re-issue. Contact DPW to arrange for removal of any fuel that may be remaining in the tank. Render the tank safely inert for explosive hazard prior to removal. Address inerting and moving procedures as an Appendix in the Accident Prevention Plan. Up to 10 cubic yards of contaminated soil can be removed from an AST site.

6.17.17.9. Dispose of all contaminated soils and contaminated wash waters at a licensed facility.

6.17.17.10. Remove all contaminated soils and wash waters within 15 days of stockpiling.

6.17.17.11. Secure contaminated soils and prevent run-off by adequate containment practices. The Contractor is responsible for any surface contamination caused by inadequate site protection.

6.17.17.12. Provide Disposal receipts to the Contracting Officer Representative within 10 days of removal from the site.

6.17.18. Demolition Material Disposal. Contractor See Appendix CC for information on disposing of demolition materials in Fort Bragg’s Landfill.

6.18. ADDITIONAL FACILITIES

«ADDITIONAL_FACILITIES»

End of Section 01 10 00*<TO>*.«TONUM»*</TO>*

SAMPLE