3.0 FIRE STATION *<VER></VER>*

3.1. FUNCTIONAL/OPERATIONAL REQUIREMENTS

The Fire Station is composed of three main types of functional areas: Apparatus Equipment & Maintenance (the high bay area where the apparatus are stored and support areas), the Living area (the area where the firemen sleep, shower, eat and relax) and the Administrative & Training Area (the area where the offices and training are located along with the only area accessible by the public. Comply with the attached Army Standard for Fire Stations and Army Standard Designs for Fire Stations (Draft) for area and room functional requirements. Generally, the size of the station depends on the class of station, the number of companies housed, the number and types of emergency vehicles housed, and any additional spaces required. The class of station will partially determine the number of spaces required. However, depending on what is currently available on the Installation, some spaces normally reserved for Headquarters stations may be provided in Satellite stations.

3.1.1. Accessibility Requirements

The Administrative & Training Area in the building is the only area required to be accessible.

3.1.1.1. Site Plan Design and Construction:

(a) Provide ABA compliance access from the parking lot to the building.

(b) Provide two ABA compliant vehicle parking stalls for the fire station for visitor parking.

(c) Provide vehicle parking signage and pavement markings.

(d) Facility Design and Construction:

(e) The main building entrance on the ground level and at least one emergency egress, designed per applicable code, shall be accessible. Electronic exterior door push buttons are not required.

(f) Provide ABA clearances and door accesses in the main entrance lobby and the entire Administrative & Training areas of the Fire Station Facility.

(g) Provide a accessible drinking fountain in the lobby.

(h) Provide accessible public toilet(s), which may be unisex, in the lobby area.

(i) Do not include provisions outlined within the ABA requirements for the vision or hearing impaired.

3.1.2. CORE AREAS. Arrange core areas in one or two story configurations as indicated in Paragraph 2 of this Section..

3.1.2.1. Apparatus Bay Ancillary Functions. These areas provide support for and are directly related to functions in the Apparatus Bay. These areas should be directly accessible to or a part of the Apparatus Bay.

3.1.2.2. Telecommunications Room. This area provides telecommunication support to the entire fire station facility, requiring direct access from the Administrative & Training Area.

3.1.2.3. Recycle Area. Provide a space for the collection and storage of recyclables in the fire station facility.

3.2. BETTERMENTS

3.2.1. Provide a floor radiant heating element at each vehicle bay door in colder climates to prevent the door from freezing to the pavement.

3.2.2. Provide ceiling fans in the Fitness Room.

3.2.3. If natural gas is available, provide a gas connection to an external grill.

3.2.4. Clear spans are preferred for the Apparatus Bay.

3.2.5. Provide closed circuit television (CCTV) to monitor entry/exit doors.

3.2.6. Provide an Intrusion Detection System (IDS) to protect equipment and assets.

3.3. SITE PLANNING AND DESIGN

Organize the site to be compatible with the site planning and style of adjacent existing structures. Locate the building to reflect local climatic conditions. For example, provide protection from prevailing winds and glare and orient operable windows to take advantage of summer breezes. Locate the building to take advantage of passive solar heating and day lighting.

3.3.1. Signage. All Army Fire Stations must have a sign placed at the front of the facility which clearly serves as a landmark for the facility. The sign should be placed at eye level. Provide standardized signage systems in compliance with the Area Design Guide to facilitate movement and provide a sense of orientation.

3.3.2. Vehicle Parking/Hardstand. Hardstand areas shall be rigid pavement. Pavement for organizational vehicle areas shall be designed for the heaviest vehicle at the installation.

3.3.3. Oil/Water Separator. Oil/water separators shall be designed in accordance with local codes and standard industry practice for the specific waste stream to be treated. Minimize maintenance requirements and locate oil/water separators to minimize pipe runs, provide vehicular access, and be out of circulation areas.

3.3.4. Parking and Other Access DrivesAccess drives to staff and public parking shall not cross the vehicle access drive out of the Apparatus Bay. Locate parking areas so they do not dominate the main entrance and public image of the facility. Comply with UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings.

3.4. ARCHITECTURE

3.4.1. Architectural Planning. The architectural plan shall accommodate the functional and spatial relationships required for a functionally efficient Fire Station. Building layouts shall recognize the contrasting operational, administrative and residential functional requirements, and the facility shall be designed for the appropriate accomplishment of each function.

3.4.2. Circulation Design Considerations. The interior functional arrangement shall allow for ease of circulation and movement and consider the safety, health and operational efficiency of the occupants. Also, the need for the fire fighters' rapid response to emergency situations shall be recongized. Exterior circulation at the facility shall meet antiterrorism and security requirements and provide safe and efficient vehicular movement.

3.4.3. Building Exterior. Consult the applicable Area Design Guide for the required aesthetic motif and material preferences. Select exterior materials to be attractive, economical, durable and low maintenance. Pre-engineered metal building systems are preferred for their factory finished metal siding and roof panels. Masonry walls are preferred at the ground floor level.

3.4.3.1. The Fire Station shall present a cohesive architectural image and shall comply with Command and Area Design Guide architectural standards. Also, consider the local geographical and cultural environment. Use durable and low-maintenance exterior finishes.

3.4.3.2. Ensure that the main Fire Station entrance is clearly identifiable to discourage visitors from entering the facility through an open Apparatus Bay door. In cold climates, provide a canopy (or a recess) at required egress doors to ensure that doors can completely open without obstruction from snow and ice. Comply with NFPA 80.

3.4.4. Building Interior

3.4.4.1. Construction and finishes (walls, floor, and ceiling) shall support the cohesive image and theme of the facility. A residential, non-institutional character shall be reflected in the living areas of the facility, such as the Day Room and the Dorm Rooms.

3.4.4.2. Durability is extremely important when specifying materials for interior construction and finishes. Fire Stations are occupied 24 hours per day, seven days a week and heavy equipment is regularly handled throughout the facility. Compared to many other facility types, these conditions will lead to greater interior damage being incurred.

(a) Casework: Provide counters, casework, and cabinets of high-quality and durable construction with Premium or Custom finishes per AWI Quality Standards, 8th Edition. Casework, cabinet doors, and drawer faces shall be veneer panel core. At a minimum use plastic laminate doors, drawers, and casework faces. Where no water source is present, countertops shall have plastic laminate as a minimum. Where a water source is present, countertops shall be solid surface/solid composite plastics only.

(i) Interior Finishes: Finishes must take into account the intended uses, be highly durable, and meet the requirements listed in NFPA 101 Life Safety Code.

3.4.5. Floors. Provide concrete floors in the Apparatus Bay areas that shall be sloped to the floor trench drains. Provide floor trench drains parallel to the centerline of each vehicle or a continuous trench drain located at the interior side of overhead doors on each side of the Apparatus Bay. Slope trench drain toward the areas where component washing will occur.

3.4.6. Natural Lighting. The preference is for clerestory lighting over the Apparatus Bay area doors, and vision panels in overhead doors. Provide operable windows for natural lighting and ventilation in Administrative & Training Areas, Dorm Rooms, and Day Room/Training Room.

3.4.7. Apparatus Bay Doors. Provide overhead doors (minimum 14 feet wide by 14 feet high) in the exterior wall at each end of each structural bay and (minimum 18 feet wide by 18 feet high) in the exterior wall at each end of each ARFF bay.. Provide overhead doors (minimum 10 foot by 10 foot) for Consolidated Bench repair shop.

(a) Locking. Provide overhead doors that are operable from the interior only. Provide doors with a positive locking mechanism that will allow the door to remain open at engine exhaust position, approximately 1 ft above the floor. Coordinate door locking requirements with the using service.

(b) Serviceability. Design repair and Apparatus Bay doors to meet heavy duty loads and high frequency of operation. Conduct testing of deflection and operation of the doors prior to acceptance during construction. Doors shall be provided and installed by a commercial door company having not less than five years of experience in manufacturing, installing, and servicing the size and type of doors provided.

(c) Insulated Doors. The preference is insulated doors for thermal resistance and noise control.

3.4.8. Personnel Doors. Provide exterior personnel doors in the ends of central corridors maintenance areas, and in the circulation bays. Provide steel doors with vision panels, except at storage, janitorial, and latrine areas. Minimum size for personnel doors is 3 feet wide by 7 feet high.

3.4.9. Special Ac**o**ustical Requirements

When a Fire Station is located near the flightline, comply with the AICUZ noise reductions for the facility location. If an AICUZ map is not available for the location, an acoustical engineer must conduct an acoustical analysis to determine the exact type and extent of the additional acoustical treatments needed to address aircraft noise.

3.4.10. Finishes

3.4.10.1. Paint

(a) All paints used shall be listed on the "Approved product list" of the Master Painters Institute, (MPI). Application criteria shall be as recommended by Master Painters Institute (MPI) guide specifications for the substrate to be painted and the environmental conditions existing at the project site.

(b) Exterior surfaces, except factory pre-finished material or exterior surfaces receiving other finishes shall be painted with a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds, confirmed or suspected human carcinogens shall not be used on this project. Exterior paints and coating products shall be classified as containing low volatile organic compounds (VOCs) in accordance with

MPI criteria. Application criteria shall be as recommended by MPI guide specifications. Provide an MPI Gloss Level 5 Finish (Semi-gloss), unless otherwise specified.

(c) Interior surfaces, except factory pre-finished material or interior surfaces receiving other finishes shall be painted with a minimum of one prime coat and two finish coats. Paints having a lead content over 0.06 percent by weight of nonvolatile content are unacceptable. Paints containing zinc-chromate, strontium-chromate, mercury or mercury compounds, confirmed or suspected human carcinogens shall not be used on this project. Interior paints and coating products shall contain a maximum level of 150 g/l (grams per liter) of volatile organic compounds (VOCs) for non-flat coatings and 50 g/l of VOCs for flat coatings. Provide an MPI Gloss Level 5 Finish (Semi-gloss) in wet areas and a flat finish in all other areas.

3.4.10.2. Minimum Interior Finishes

(a) Designers are not limited to finishes listed in the following table MINIMUM INTERIOR FINISHES and are encouraged to offer higher quality finishes.

(b) Wall, ceiling finishes, floor finishes and movable partitions shall conform to the requirements of the IBC, NFPA and UFC 3-600-01. Where code requirements conflict, the most stringent code requirement shall apply.

(c) Resilient and tile flooringshall be used for floor finishes. If selected, vinyl composition tile (VCT) shall be a minimum 1/8 inch thick, conforming to ASTM F 1066, Class 2, through-pattern tile, Composition 1, asbestos free, with color and pattern uniformly distributed throughout the thickness of the tile.

(d) Flooring shall conform to the Army Standard for Fire Stations and the Army Standard Design for Fire Stations (Draft).

(e) Walls: All wall finish shall be painted gypsum board, except where stated otherwise. Use impact resistant gypsum board in corridors and the centralized laundry, if provided.

(f) All ceiling finishes shall be painted gypsum board, except where stated otherwise.

3.5. STRUCTURAL REQUIREMENTS

Design and construct as a complete system in accordance with APPLICABLE CRITERIA.

3.6. MECHANICAL REQUIREMENTS

3.6.1. Fire Protection

Provide automatic sprinklers that provide 100 percent coverage of the facility. Avoid locating any sprinkler piping in spaces that may be subject to freezing. Portions of the sprinkler system subject to freezing may be d sprinkler systems. For the kitchen area(s), provide a wet chemical or water spray for all kitchen hood ductwork. Also, provide each cooking surface with a fire extinguishing system. Ensure the kitchen area(s) are in compliance with NFPA 96.

3.6.2. Plumbing

Provide facility with a fully functional plumbing system that complies with the International Plumbing Code (IPC).

3.6.2.1. Drains: Provide floor trench drains parallel to the centerline of each vehicle or a continuous floor trench drain located at the interior side of overhead doors on each side of the Apparatus Bay. All vehicle bay drains shall connect to an approved oil/water separator with holding tank prior to discharge.

3.6.2.2. Connect all Equipment Wash/ Disinfection and Work Room/ Equipment Maintenance drains to an oil/water separator with holding tank.

3.6.2.3. Connect all Protective Clothing Laundry drains to an oil/water separator with holding tank, if required by location, in accordance with NFPA 1581 Standard on Fire Department Infection Control Program

3.6.2.4. Compressed Air: Provide a compressed air system in the Apparatus Bay with self-retracting lines at each vehicle bay and a separate compressed air system for the Self-Contained Breathing Apparatus (SCBA) Maintenance Room.

3.6.2.5. Hose Bibs: Provide hose bibs near Apparatus Bays for vehicle cleaning and maintenance and at the Patio.

3.6.2.6. Provide an emergency eye wash fountain and shower in the Apparatus Bay and Fire Extinguisher Inspection Room.

3.6.2.7. Provide a foot-operated mop sink with mop hanging rack in the Apparatus Bay.

3.6.3. Heating, Ventilating and Air-Conditioning (HVAC)

Provide facility with a fully functional HVAC system that is automatically controlled by a Building Automation System (BAS).

3.6.3.1. Vehicle Exhaust System: A complete Apparatus Bay Air Cleaning System in compliance with NFPA 1500 Standard on Fire Department Occupational Safety and Health Program to eliminate 100% of vehicle exhaust emissions shall be utilized, consisting of exhaust filtration for apparatus and for off-gassing from Personal Protective Equipment. A hose based, or Fire Apparatus Vehicle Exhaust Removal System (FAVERS) system, may be used in conjunction with the filtration system.

3.6.3.2. SCBA Maintenance Room: Provide positive pressure ventilation in the Self-Contained Breathing Apparatus (SCBA) Maintenance Room to prevent contamination. Provide compressed air lines to the SCBA Maintenance Room.

3.6.3.3. The PPE Gear Storage Room, if provided, shall be negatively pressurized with dedicated exhaust vented to the outside to evacuate gaseous emissions from stored gear or filtration equipment that is designed to filter and remove gaseous emissions from Personal Protective Equipment shall be provided.

3.6.3.4. Dorm Room Pressurization: Positively pressurize the Dorm Rooms with a 100% dedicated outdoor air unit. Dedicated outdoor air units shall continuously supply dehumidified, tempered air to each Dorm Room. Provide compliance with International Mechanical Code (IMC) chapter 4 and maintain slight building positive pressurization. Dedicated outdoor air unit cooling/dehumidification shall be available 24 hours a day/7 days a week/365 days a year. Refer to Paragraph 6 of this section for site specific constraints. Use the outdoor air unit to ventilate and pressurize corridors adjacent to the Dorm Rooms.

3.6.3.5. Dorm Room Temperature Control: Provide each Dorm Room with an individual heating/cooling unit. Centrally control each unit with the facility's Direct Digital Control (DDC) system. Occupant control shall include fan selection (on/off) and a slide bar temperature set point adjustment that allows +/- 2 degrees F of adjustment from the DDC programmed set points (70 degrees F heating, 75 degrees F cooling). Additionally, the DDC controls shall monitor each dwelling unit for sub-cooling. The DDC system shall record an alarm event if the space temperature drops below 71 degrees F (adjustable) when the outside air is greater than 85 degrees F (adjustable).

3.7. ELECTRICAL REQUIREMENTS

Electrical power, lighting and telecommunications shall be provided to the facility as specified below, in accordance with APPLICABLE CRITERIA, GENERAL TECHNICAL REQUIREMENTS, all IEEE Standards (including Recommended Practice) where the scope is applicable to this design effort, all UL Standards where the UL scope is applicable to this design effort and where itemized, in the combined interdisciplinary areas cited. Dorm Rooms shall be considered to be living and sleeping rooms; therefore they are considered part of a dwelling unit per NFPA 70 definition.

(a) Perform a short circuit study as an integral part of selecting and sizing electrical distribution components (all equipment shall be fully rated; that is, do not use series-combination rated equipment).

(b) Perform a coordination study to ensure that protective device settings are appropriate for the expected range of conditions (depending on the design and construction schedule, it is acceptable to design adequate protective devices with adjustable features, followed by a coordination study required during construction to specify the correct settings.)

(c) Circuit breakers, disconnect switches, and other devices that meet the OSHA definition of energy-isolating device shall be lockable.

(d) Do not exceed 5 percent combined voltage drop on feeders and branch circuits if the transformer providing service is located within the facility. If the transformer is located exterior to the facility, limit the combined voltage drop for service conductors, feeders, and branch circuits to 5 percent. Individual voltage drop on branch circuits should not exceed 3 percent. Branch circuits supplying sensitive circuits should be limited to 1 percent voltage drop.

(e) Unless unavoidable, to minimize sound transmission, do not install “back-to-back” outlet boxes

3.7.1. Exterior Lighting

3.7.1.1. Site Lighting

Provide general site lighting to ensure that parking areas and the exterior facility, including facility aprons, open storage areas, walkways, etc., have adequate lighting for safety, evacuation, and security measures. Exterior area lighting systems should consist of color corrected high intensity discharge lighting units mounted on poles and located within the clear zone and on the primary facility. Illumination levels shall be 50 lux for areas adjacent to the primary facility and 5 lux for parking areas.

3.7.1.2. Perimeter Security Lighting. Protective lighting systems shall be provided in response to project specific requirements to deter trespassers and make them visible to guards. Levels of exterior lighting for protected areas shall conform to the requirements in the IES Lighting Handbook. Lighting circuits shall be controlled by a photoelectric cell with manual override. If the facility is near a flight line, site lighting cannot interfere with or be a distraction to aircraft operations or movement at night.

3.7.1.3. Lighting Controls. Perimeter security lighting protective lighting circuits shall be provided with photocell control with a manual “ON/OFF/AUTO” control switch independent of the control device for the ASHRAE 90.1 nonexempt lighting. The facility aprons and open storage area lighting circuits shall be provided with photocell control with a manual “ON/OFF/AUTO” control switch independent of the control device for the ASHRAE 90.1 nonexempt lighting.

3.7.2. Interi**o**r Lighting

Provide fluorescent luminaires with premium efficiency electronic programmed start fluorescent ballasts. For spaces where the "Standard Design Criteria, Fire Stations, Room By Room Descriptions" of a space does not specify a particular light level target, the illumination shall be in accordance with the recommendations of the IESNA and other applicable criteria and standards.

3.7.2.1. Illumination target level is 50 foot-candles for the PPE Gear Storage Area, Protective Clothing Laundry, Equipment Maintenance/Wash/Disinfection Area, Fire Extinguisher Inspection, Maintenance and Storage Area (also provide task lighting at work/service bench), Dispatch Area (also provide task lighting at the desk), Day/Training Room (including kitchen), Apparatus Bay and Hose Storage Area. Apparatus Bay lighting design shall incorporate the design elements per UFC 3-530-01 for a Maintenance Facility Vehicle Storage/Repair Area. The illumination is the same for the following rooms if they are included in the project facility: SCBA Maintenance/Compressor room, EMT Storage and Medical Storage Cabinet, Fire Chief’s and Deputy Fire Chief’s Offices (also provide task lighting at the desk), and Computer Training/Testing Room.

3.7.2.2. Illumination target level is 50 foot-candles for the HAZMAT/CBRNE Equipment Storage Areas, Agent Storage Area, Spare PPE Gear Storage Area, Vehicle Maintenance Equipment Storage Area, Deployment Gear Storage area, and Vending Area.

3.7.2.3. Illumination target level is 0.5 foot-candles for the Outdoor Patio/BBQ Area.

3.7.2.4. Illumination target level of rooms not specified shall be to current codes. Upon conflict current codes shall dictate illumination target levels.

3.7.2.5. Provide dimming controls for the lighting in the Day/Training Room (including kitchen) and Recreation Room.

3.7.2.6. Provide under-cabinet counter lighting where wall cabinets are used above counter tops.

3.7.3. Interior Power

3.7.3.1. When facility electrical design includes a 480/277V power distribution system, mechanical systems and lighting systems shall generally be fed from the available 480/277V power distribution system.

3.7.3.2. In general, provide wall duplex outlets, not less than 10 feet on center. Provide not less than one duplex outlet per wall on walls less than 10 feet long. Locate outlets to eliminate the need for extension cords.

3.7.3.3. Above counter receptacles shall be mounted in the vertical wall space above the counter-top.

3.7.3.4. Data, CATV, and similar electronic equipment outlets shall each be provided with an associated duplex receptacle.

3.7.3.5. Provide GFCI outlets in the Apparatus Bays, restrooms, kitchen and water accessible work areas. Provide weatherproof GFCI outlets for all exterior outlets.

3.7.4. Emergency Power

Provide an Emergency Power Supply System (EPSS) in accordance with NFPA 110 for Class X (minimum time 72 hours), Level 1, Type 10. Provide Bypass-Isolation Switches to bypass and isolate the transfer switch. On-site fuel supply shall be provided. Prime movers shall not be solely dependent on a public gas utility for their fuel supply. Means shall be provided for automatically transferring from one fuel supply to another where dual fuel supplies are used. Provide 100% emergency generator back-up power for all Fire Stations.

3.7.5. Special Power Requirements

(a) Apparatus Bay: Provide Apparatus Bay doors with a signaling system to indicate fully raised doors with a red/green indicator located on the driver's side at 6 feet above finished floor. Locate all outlets at 36 inches above finished floor. Provide self-retracting electric drop cords between vehicles that can reach to either end of the bay.

(b) Vehicle Maintenance Bay: Provide vehicle maintenance bay doors with a signaling system to indicate fully raised doors with a red/green indicator located on the driver's side at 6 feet above finished floor. Locate all outlets at 36 inches above finished floor. Provide self-retracting electric drop cords between vehicles that can reach to either end of the bay.

(c) Hose Storage: Provide dedicated outlets to support drying equipment.

(d) Station Officer's Office/Watch Desk: Provide outlets as needed to support the extensive equipment required. Provide two additional quad outlets at the control center console. Provide a switch controlling operation of aApparatus Bay doors.

(e) Telecommunications Room: Provide outlets as needed to support the extensive equipment required. In addition, provide two spare quad outlets. In addition to providing generator backup power for the computer file server and for all dispatch and alarm systems, provide uninterrupted power supply (UPS) that will provide uninterrupted flow of power to gap between the time of power loss and the time that the generator is providing power. Provide transient voltage surge suppression in the electric panel(s) serving this room. Provide a Stored Energy Power Supply System (SEPSS) UPS in accordance with NFPA 111 for Type O, Class 0.25, Category B, Level 1.

(f) Kitchen: Provide dedicated outlets to accommodate all non-portable kitchen equipment.

(g) Fitness Room: Provide dedicated wall or floor outlets as needed to accommodate fitness machines such as treadmills, bikes and stair-step machines. Provide dedicated circuit to accommodate the sauna's heating element.

(h) Laundry Room: Provide additional outlet at the folding table.

(i) Recreation Room: Provide additional outlets(s) to accommodate game equipment. Refer to Paragraph 6.0 of this Section for the number of game equipment to be provided.

(j) Vending Area: Provide dedicated power and outlets required by vending machines. Refer to Paragraph 6.0 of this Section for the number of vending machines to be provided.

(k) Department Training Room: Provide direct power to each work table.

(l) Computer Training/Testing Room: Provide direct power to each computer/study corral and for other equipment such as printers.

(m) Dispatch and Station Officer's Office/Watch Desk: Provide UPS for all dispatch room systems. The UPS shall provide an uninterrupted flow of power to gap between the time of power loss and the time that generator is providing power. Provide outlets as needed to support all equipment, including charging equipment for handhelds. Provide switch controlling "open only" operation of Apparatus Bay doors. Provide simultaneous light and audible control for the following elements when the firefighter alert system is activated: Dorm Room lights (the dedicated alert light), corridor lights from Dorm Rooms to Apparatus Bay and the Apparatus Bay lights. Provide a Stored Energy Power Supply System (SEPSS) UPS in accordance with NFPA 111 for Type O, Class 0.25, Category B, Level 1.

(n) Outdoor Patio/BBQ: Provide minimum of four weatherproof GFCI outlets (with additional outlets provided as needed to support functional requirements).

(o) Dorm Rooms: Provide a minimum of two duplex outlets at the night table location so that each of the two fightfighters who share the room will be capable of plugging in two personal use items at the night table location

3.7.6. Mass Notification

Provide the Mass Notification System (MNS) combined with the Fire Alarm System to prevent duplication of devices and maintenance, which should interface with the installation MNS to provide emergency notifications of an area, regional or national nature. Designer should also consider combining with the Public Address System (PA) for further cost savings.

3.7.7. Firefighter Alert System

Firefighter Alert System shall provide visual/audible alerts, features, and controls. Provide simultaneous light and audible control for the following spaces when the firefighter alert system is activated: Dorm Room lights (the dedicated alert light), corridor lights from Dorm Rooms to the Apparatus Bay, and the Apparatus Bay lights. Provide controls for the system at the Station Officer's Office/Watch Desk and at Dispatch Desk. Provide the Fire Chief's and Deputy Fire Chief's Offices with a dedicated alert light fixture that is controllable from the Watch Desk/Dispatch and is tied into the firefighting alert system with a red-tinted bulb or lens.

3.7.8. Hazardous Locations

Hazardous locations shall be clearly defined by the designer based on the intended use of the facility and applicable criteria. Receptacles, devices, equipment and wiring in hazardous locations shall be designed (UL listed for the application) and installed in accordance with the NFPA codes. When hazardous locations are determined to be up to 18-inches above the finished floor, receptacles, devices and conduit routing to them shall be installed above the hazardous area or at the height required by the Paragraph 3.7.6.1 Special Power Requirements, whichever is higher.

3.7.8.1. Grounding

The building shall have a ground grid around the perimeter for grounding incoming service, building steel, lightning protection, telephone service, piping, and internal grounding requirements. Provide ground straps as required above and connect to the building grounding system. Provide grounding points in vehicle and equipment parking areas on 40 foot centers (maximum), and coordinate with the power and data bollard units. Additional grounding may be provided based on project requirements.

3.7.8.2. Cathodic Protection System

Corrosion protection for the facility shall be provided by coordinated material specification and/or provision of a cathodic protection system to assure corrosion will not compromise system operation for the 50-year infrastructure design lifetime of the facility. Provide an appropriate cathodic protection system when the design analysis of a corrosion engineer indicates cathodic protection is recommended to assure corrosion will not compromise system operation for the 50-year infrastructure design lifetime of the facility.

3.8. TELECOMMUNICATION**S** REQUIREMENTS

Telecommunications design shall be in accordance with the Technical Guide for Installation Information Infrastructure Architecture (I3A). In the I3A Technical Criteria, the word “shall” shall be substituted for the word “should” throughout the document.

3.8.1. Service

Coordinate service with local Network Enterprise Center (NEC) personnel.

3.8.2. System

Provide a fully operational system from the demarcation point to each outlet.

Coordinate any closed-circuit television (CCTV)/camera systems with the appropriate Installation security office.

3.8.3. Cable TV (CATV) Requirements

All CATV outlet boxes, connectors, cabling, and cabinets shall conform to the I3A Technical Criteria unless noted otherwise. All horizontal cabling shall be ran from the CATV outlet to the nearest telecommunications room. Provide outlets in Day Rooms, Recreation Rooms and Training areas, and any room specified in the Army Standard Design for Fire Stations (Draft). Provide provisions for programming input to specific outlets from sources in the Telecommunications Room.

3.8.4. Fire Alarm Requirements

There shall be one complete addressable Fire Alarm System for each building. Combine system with MNS and consider incorporating PA system to reduce device and maintenance costs. This system shall consist of a control panel, a communications device, initiating devices, notification devices and associated wiring and pathways. Class A addressable systems shall be installed.

3.8.4.1. All smoke detectors and carbon monoxide detectors shall be monitored. Tampering with a smoke and carbon monoxide detectors shall send a trouble signal to the control panel.

3.8.4.2. All software, software locks, special tools and any other proprietary equipment required to maintain, add devices to or delete devices from the system, or test the Fire Alarm system shall become the property of the Government and be furnished to the Contracting Officers Representative prior to the final inspection of the system.

3.9. ATTACHMENTS A THROUGH C

The Attachments represent the Army Standards at the time of award. The Standards may be updated through the course of the contract. Attachment C – The Army Standard Design for Fire Station – Plans are for information only to show general layout and arrangement of the facility. Provide the facility for this project as depicted in the floor plan provided in Appendix J.

Attachment A – The Army Standard for Fire Stations

Attachment B – Standard Design Criteria Fire Stations – Room by Room Description

Attachment C – The Army Standard Design for Fire Station - Plans

Fire Station Space Program Data

Site Plan
Floor Plan