



Project Program

SOF SMALL ARMS RANGE

P-891

FY09

Category Code 179.00

Fort Story
Virginia Beach, VA

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1. PROJECT DESCRIPTION

The P-891 Small Arms Range provides for operational training for Naval Special Warfare Group 2. The project is located at Fort Story, Virginia and compliments other training facilities located at Fort Story. The undeveloped site is located off of Hospital Road near P-416 Close Quarters Combat (CQC) Trainer. The project will provide two structures; a Close Quarters Combat (CQC) Trainer and an administrative building. The area of the CQC trainer is 26,038 square feet (2,378 square meters). The area of the administration building is approximately 2,904 square feet (270 square meters). The combined area of the buildings may not exceed 38,200 square feet (3548 square meters). The minimum combined areas of both facilities shall be not less than 28,650 square feet (2,662 square meters)

CQC Trainer

The trainer will be a live fire fully ballistic training facility. The facility will be comprised of a ballistic walls and roof system. The layout of the CQC trainer has been established by the activity. The layout of the CQC trainer, shown in Part 6m has been established by the activity occupant. Design-Build Contractor's designer is free to provide additional input in terms of suggested improvements to the layout that enhances safety and training scenarios. The CQC trainer is comprised of four separate training zones to allow for multiple simultaneous training venues but can be configured to allow for a single training exercise. The CQC trainer provides catwalks to allow instructors to control and observe training operations. Internally, the project includes ballistic partitions, ballistic doors, bullet resistant opening protection and similar items. The CQC trainer will have a specialized ventilation system designed to remove smoke from the interior of the spaces. The ventilation system requirements have been established between NAVFAC criteria experts, NAVFAC MidLant Mechanical Project Engineer, US Navy Industrial Hygienists, and the RFP preparer.

The spaces required and the layout have been established by the activity and are included as an appendix to the RFP.

Administration Building

The administration building is provided to allow for pre and post training briefings and to provide an administration space for the site manager and the instructors. In addition, toilet and shower facilities will be provided. Building infrastructure support includes a fire alarm system, electrical distribution, telecommunication distribution system, mechanical systems,

2. PROJECT OBJECTIVES

2.1 Mission Statement

This project provides for adequate and safe, multipurpose, dynamic combat skills/indoor range facility to meet mission requirements of move-and shoot, quick reaction, and close quarters combat training for SEAL Teams TWO, FOUR, EIGHT, and TEN. The teams must train and qualify in simulated and realistic (full mission profile), and advanced dynamic shooting skills and specialized weapons tactics and techniques, including urban warfare and close quarters combat, in support of real world tasking.

2.2 Facility Function

The facilities primary function is to provide a training venue for SEAL teams assigned to Naval Amphibious Base, Little Creek. The project will support and supplement other training facilities located at Fort Story.

2.3 Project Specific Priorities

The key factors to consider are as follows:

Provide a CQC trainer that is fully enclosed and will prevent accidentally discharged rounds from exiting the building and rounds that may escape will be contained within the confines of the site.

Provide a ventilation system in the CQC trainer designed to remove smoke and other particulate as defined in the RFP documents.

Provide bullet resistant internal components that provide safe operations for the personnel using the facility.

Provide a specialized fire protection system within the CQC trainer.

2.3.1 Sustainable Design

Integrate sustainable strategies and features into the design to minimize the energy consumption of the facilities; conserve resources; minimize adverse effects to the environment; and improve occupant productivity, health, and comfort to reduce the total cost of ownership of the project using a whole building, life-cycle approach. The design and construction shall incorporate sustainable design strategies and features to the fullest extent possible, consistent with mission, budget and client requirements.

LEED certification is not required on this project.

The implementation of low impact development (LID) is required in accordance with UFC 3-210-10

Even though LEED Certification is not required, ensure sustainable strategies and features in the design phase are incorporated in the construction phase.

2.3.2 Energy Conservation

Energy conservation shall be in accordance with UFC 3-400-01, Design Energy Conservation and the Energy Policy Act of 2005.

2.3.3 Building Commissioning

Provide Fundamental Commissioning to meet the requirements of UFGS section 01 45 00.05 20, *Design and Construction Quality Control*. At a minimum Commission the following systems: HVAC systems and controls, lighting controls, and if provided, day lighting controls, refrigeration systems and controls, renewable energy systems, and domestic hot water systems. See the following "Engineering System Requirements" sections in Chapter 6 of the Project Program to determine any additional systems to be commissioned.

The designated Commissioning Authority (CA) shall meet the qualifications of UFGS section 01 45 00.05 20, *Design and Construction Quality Control*. The CA shall report results, recommendations, and findings directly to the Government.

Provide testing, balancing, and 'Level 2' commissioning (per SMACNA) for the CQC range ventilation system.

Provide testing, balancing, and 'Level 1' commissioning (per SMACNA) for the Administration Building HVAC systems.

2.3.4 Accessibility Requirements

Provide accessibility to facilities as required in *ABA Accessibility Standard for Department of Defense Facilities*. These standards apply to Department of Defense (DOD) facilities under the Architectural Barriers Act (ABA) as of October 31, 2008.

The Administration building shall meet ADA accessibility requirements. The CQC Trainer is not required to be accessible.

2.3.5 Antiterrorism Criteria

Design the facility to comply with UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings.

Administration Facility will have an occupancy designated as “inhabited”. Close Quarters Combat Trainer is “uninhabited.”

Facility will be less than 3 stories and will not be required to meet the progressive collapse avoidance standards.

Facility is within a controlled perimeter.

Develop the site to provide the standoff requirements listed in UFC 4-010-01.

Design the facility to comply with UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings.

2.4 Appropriate Design

This project is located in a semi developed area of Fort Story. There are few buildings adjacent to the site. Design shall comply with Fort Story Installation Design Guide which are outlined herein. The appropriate parts of the guidelines are attached as a part of the RFP. In general, the following design guidance should be considered:

General

Site is located in the Open Space (OS) area of Fort Story Brick, when used shall be a red brick, common size matching Building #860.

Metal Roofing shall be a “light color” from a manufacturer’s standard color chart.

Metal Wall panels shall be a vertical rib type with color to match building #1107. Color shall be as selected from manufacturer’s standard color chart.

CQC Trainer

Follow Design Character for Warehouses but base may be concrete, prefinished masonry, or brick.

A reveal course is not required

Roof may be low slope type as provided for in the ESRs.

Administration Building

Follow “Single Story Brick Theme but provide standing seam metal roof in lieu of asphalt shingles.

Construction and finishes are as indicated in the Engineering Service Requirements and as follows:

CQC Trainer

Exterior walls may be constructed as permitted in the RFP, however all exterior walls shall have bullet resistant features as follows:

Walls to 8’ (2.4 meters) – AR (Abrasion Resistant) 500 steel -3/8” (10 mm) thick. Walls shall have 2 layers of 1/8’ (3mm) thick conveyor belt rubber applied on the inside face.

Walls 8’ (2.4 meters) to 12’ (3.66 meters) – 8” (203mm) concrete or 3/8” (10mm) AR 500 steel plate without rubber facing.

Walls above 12’ (3.66 meters) – construct to meet UL 752 Level 5 ballistic protection.

The exterior walls surrounding the Staging Room, Storage Room, and Utility Rooms are not required to have ballistic protection. The interior walls separating the training areas and these spaces will be constructed to provide the same bullet resistance as the exterior walls identified above.

Roof construction shall meet the following requirements.

Provide UL 752, Level 5 ballistic protection.
Concrete roof of 4 inches (102mm) thick will be considered an acceptable equivalent.

Administration Building

Provide construction as permitted in the ESRs

2.5 Workflow Process

2.5.1 Hours Of Operation

The CQC trainer is considered to be unoccupied and operational hours are based on training requirements.

The Administration building will operate between 7AM and 5PM daily. The training staff will be on site during these times. Briefings will occur during these hours but the briefing rooms will only be used periodically during these times.

It is not anticipated that the facility will be utilized during the weekends on a regular basis.

2.5.2 Staffing/Occupancy

The CQC Trainer is considered to be unoccupied

Staffing for the Administration building shall be as follows:

Type of Occupancy	No. of Persons	Description of Activity
Site Manager Office	1	Administrative activities
Instructors Office	4	Administrative activities
Briefing Rooms	44(22 each)	Lectures
Maximum Occupancy	49	

2.6 Special Design Challenges

There are several challenges that apply to the CQC Trainer. The primary concern applies to the safety aspects of this project. One is to provide ballistic protection to ensure a safe training environment that protects the personnel using the facility and to people outside the facility; the other is to provide a ventilation system that ensures that smoke and other fumes are removed from the facility as outlined in the RFP.

The safety issues shall be addressed in the Designer of Records technical proposal and shall include elaboration on the following requirements:

- Proposed wall construction
- Proposed roof construction
- Proposed opening protection

The ventilation issues shall be addressed by the designer of Record's technical proposal and shall include elaboration and schematic diagrams of the proposed solution.

In addition, the discussion of the system shall include a description of the required architectural and structural elements of the proposed solution.

2.7 Adaptability And Flexibility

There are not any special requirements for future expandability of the project.

3. SITE ANALYSIS

3.1 Existing Site Conditions

3.1.1 Natural Constraints

Topography

The site is located along Hospital Road on Fort Story, in Virginia Beach, Virginia. The site is characterized by a highpoint in the center and generally slopes toward the east and west. The site vegetation consists of patches of low lying dune grasses.

Wetlands

No wetlands have been identified on the site

Reference Geotechnical Soils Report if applicable.

A geotechnical soils report has been prepared and can be found in the appendix of this RFP. The subsurface data provided is for the Contractor's information and is not guaranteed to fully represent all subsurface conditions. The Government shall not be responsible for any interpretation or conclusion by the Contractor drawn from the data or information.

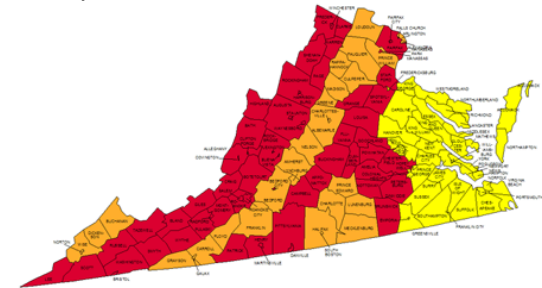
No environmental issues have been identified on the site.

Lead particle emission and noise were extensively analyzed and found not to be a concern. These analyses are documented in the Record of Environmental Consideration (REC) in the appendix of this report.

Radon Contamination (Refer to EPA Radon Zone Map)

This project site is in Zone 3 according to the EPA Radon Zone Maps shown in Figure 1. Zone 3 counties have a predicted average indoor radon screening level of less than 2 pCi/L.

Figure 1: EPA Radon Zone Map



3.1.2 Man Made

Site Utilities

Existing utilities along and in Hospital Road include a 250 mm water line, a 200 mm sanitary sewer force main, and overhead electric and communications as indicated on the topographic survey provided in the appendix.

Site Drainage & Storm Water Runoff (Hydrology)

The site currently drains naturally via sheet and shallow concentrated flow based on topography and soils. There is no existing storm drainage system serving the project site. There is an existing storm sewer system servicing the adjacent site, which is owned by the federal government. Any necessary storm sewer on the project site will connect to this system.

A detention basin will be required and shall ensure that post development runoffs do not exceed pre-development runoff for the 10-year design storm.

The Contractor shall be responsible for any repairs required to connect to the existing storm sewer system.

Adjacent Land Use

The land adjacent to the site consists of an open field of sand and low lying dune grasses as well as some small trees. To the north of the site is a paved Crane Motor Park, and to the south of the site is Hospital Road. There are future plans for an Applied Instruction Facility to the east of the site, but currently that area is occupied by only sand and low lying grasses.

AICUZ / Explosive Arcs / HERO Permits

An explosive arc has been identified and does not impact the site.

3.2 Site Development Requirements

3.2.1 Facility footprint

The facility will consist of an Administration Building, a CQC Trainer, and a parking lot to accommodate 18 personal motor vehicles and two (2) 84 passenger buses. Adjacent to the buildings there shall be a concrete dumpster pad and a Ready-Serve Locker (RSL) pad. All buildings and service pads will be contained within a secured perimeter.

Building Footprint

The proposed facility will include an administration building and a CQC Trainer. The two buildings will be detached but connected via sidewalk.

3.2.2 Vehicular Access and Circulation

Provide one parking entrance for two way traffic. Provide appropriate markings and signage for vehicular entrance. A second vehicle drive shall

be provided to allow access to a Ready Service Locker (RSL) located adjacent to the CQC Trainer building. The drives will be of bituminous pavement sections as required by soil conditions and determine by the Designer of Record.

Parking

Provide parking for 20 private motor vehicles (PMVs). The design of pavements shall take into consideration the anticipated daily traffic of 50 cars, and 10 single unit trucks and two (2) 84 passenger buses , over the life of the project (20 years) as well as the existing soil conditions at the site.

The parking lot shall be of bituminous pavement. Provide new parking pavement sections as required by soil conditions and determined by the Designer of Record. A minimum bituminous pavement section is 2" bituminous surface on 8" aggregate base over a compacted subgrade.

The parking lot shall be in accordance with the Americans with Disabilities Act (ADA). The parking lot shall accommodate the turning radius of an 84 passenger bus.

Pedestrian Access and Circulation (flow, paths, sidewalks, etc.)

Provide a network of Portland cement concrete sidewalks, separated but connected to vehicular circulation systems, to allow pedestrian circulation between various elements of the project.

Landscaping

Provide complete landscaping consisting of a lawn grasses as required to provide a quality, cost-effective, functional and visually appealing landscape program that will enhance the project site, while complying with all applicable anti-terrorism, force protection and physical security requirements. Guarantee all landscaping for a period of one year after the final acceptance of the project.

Utilities

The existing water system serving the project site is owned, operated and maintained by Old Dominion Utility Services (ODUS) utility provider. The contractor shall be responsible for connecting to the utility service connection provided by ODUS, which shall be located at the 1.5 m line of the building envelope. The contractor shall initiate the connection by submitting a "Water and Sewer Work Request – Fort Story" attached in the appendix. Provide any modifications and connections to the existing water system in accordance with UFC 3-200-10N, Civil Engineering; the utility provider's requirements; and the state waterworks' regulations; whichever is more stringent.

Signage

Provide signage in accordance with the Activity's BEAP or Installation Appearance Guide.

Site Drainage & Storm Water Runoff (hydrology)

The proposed site modifications shall incorporate a series of swales, filter strips detention pond or infiltration basin, and any other low impact development features necessary to comply with UFC 3-210-10, "Low Impact Development," and COMNAVREG MIDLANT Instructions Governing Stormwater Management.

Erosion and Sediment Control

Prevent erosion from occurring throughout demolition and construction activities by providing erosion control members in accordance with the Virginia Erosion and Sediment Control Handbook.

Fencing (perimeter security)

Provide chain link fence as indicated on the drawings in the appendix. Provide zinc-coated steel fencing components in accordance with FSRR-F-191/1, Type 1. Provide top and bottom tension wires; where tying into an existing fence, match fencing system. Ensure that the fabric height is at least 2.1m and provide outriggers and three strands of barbed wire.

Manually operated cantilever slide gates shall accompany each access drive.

Construction Access / Lay down Area

A laydown area has been identified in the gravel lot adjacent to the site as indicated on the attached RFP drawings.

Permits

Potable/Fire Water and Sanitary Sewer Permitting

Old Dominion Utility Services (ODUS) shall perform all water and sewer design, permitting, and installation. The contractor shall connect at the building envelop (1.5m line). The contractor shall coordinate location and schedule of water and sanitary sewer connections with ODUS. The contractor's Designer of Record (DOR) shall coordinate all design and permitting aspects with ODUS to ensure that all necessary information is made available to allow permitting to occur prior to installation.

Stormwater Management Permit

NAVFAC MidLant requires the contractor abide by COMNAVREG MIDLANT Instruction, Subject: Post Construction Stormwater Runoff Management Instruction. This instruction requires that the contractor develop the Storm Water Management.

A stormwater management plan shall be reviewed and approved by the Regional Water Program Manager prior to commencing construction.

Erosion and Sediment Control Permit

The Contractor and Designer of Record shall comply with COMNAVREG MIDLANT Instructions, Subject: Virginia Stormwater Management Program Construction Permit Instruction and Subject: Erosion and Sediment Control Instructions. These documents provide direction for the National Pollution Discharge Elimination System (NPDES), Storm Water Pollution Prevention Plan (SWPPP), Erosion and Sedimentation Control and Stormwater Management Permitting.

The contractor is required to obtain coverage under the Virginia Stormwater Management Plan (VSMP) and shall submit a registration statement and the appropriate fee to the state of Virginia Department of Conservation and Recreation prior to commencing construction.

The contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) as detailed in the instruction and submit for approval by the Regional Environmental Group prior to submission of the registration statement.

Sustainable Development

In accordance with Executive Order 131123 and other pertinent directives, integrate sustainable principles into the design, development and construction of the project. Reduce the total cost of ownership of the facility using a whole building, life-cycle approach.

Provide integrated sustainable design strategies and features to minimize the energy consumption of the facilities; conserve resources; minimize adverse effects to the environment; and improve occupant productivity, health, and comfort.

ATFP

The facility will consist of two buildings, one an inhabited building and the other uninhabited both inside a controlled perimeter. Incorporate the minimum antiterrorism (AT) standards indicated in UFC 4-010-01, DOD Minimum Antiterrorism Standard for Buildings in the design and construction of the facility.

4. BUILDING REQUIREMENTS

4.1 Space Tabulation

The spaces in the following area tabulations are based on the following requirements:

The Administration Building areas are based on programmed activity requirements. The Total Gross Area may be reduced or increased without prior approval if DOR determines the gross area may be reduced. The gross area may be increased if justified in the technical proposal.

The area of the CQC Trainer Building is 2,419 SQM (26,038 SF). The area of the CQC trainer is considered fixed and may not be increased or decreased. Within this footprint, the staging area, storage room, the fire protection room and any required electrical spaces will be provided. The proposed layout is attached in Appendix A: Drawings.

The maximum allowable gross area of the combined buildings is 3,548.90 SQM (38,200 SF). The minimum allowable gross area of the combined buildings is 2,661.67 SQM (28,650 SF).

4.2 Space Relationships

CQC Trainer

See attached layout and drawings in Appendix A - Drawings

Administration Building

See Diagram in this section.

The Administration Building provides for:

- Site Manager administrative space
- Instructor administrative space
- Briefing space
- Locker and toilet space

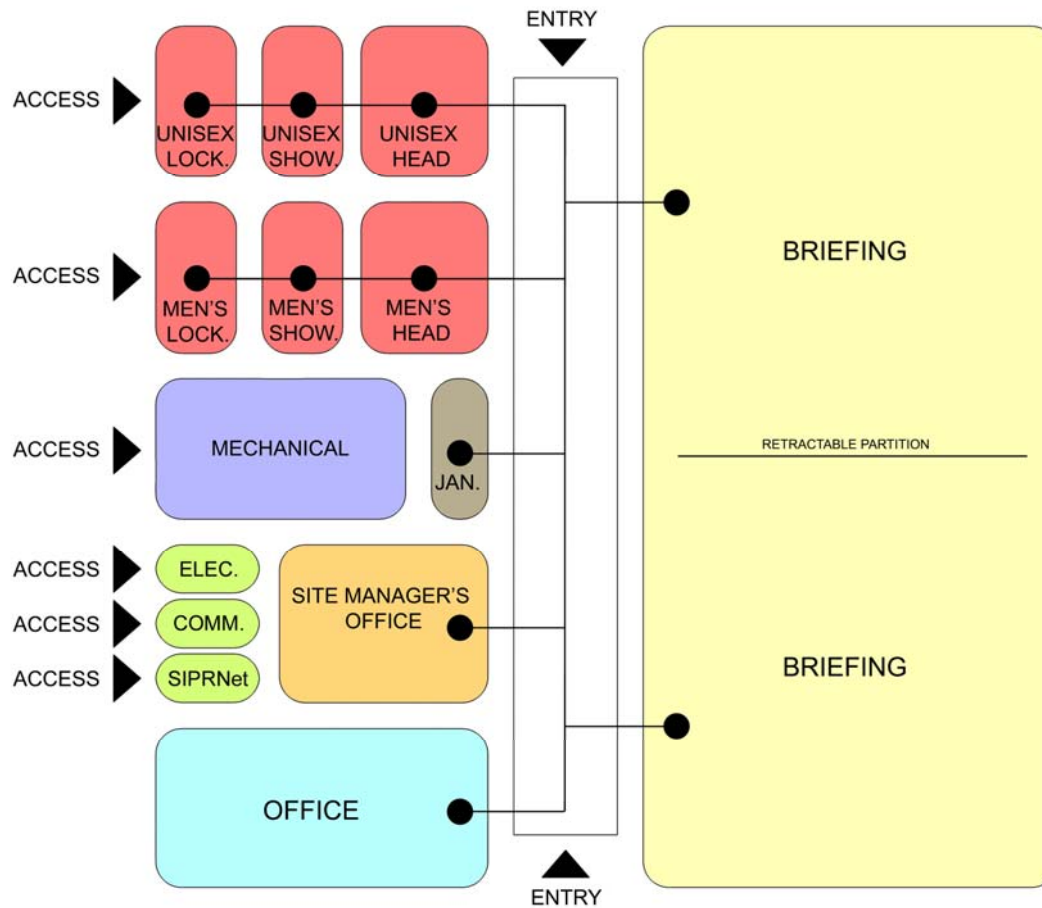
Access to these spaces shall be through a corridor.

Access to the locker rooms shall be from the exterior and interior shall connect to the showers and heads

The exterior character of the buildings shall follow the guidance provided in the project description and as defined in the ESRs.

Excerpts from the Fort Story Installation Design Guide are attached in Appendix "B" for reference. Where there are conflicting requirements between the Fort Story Installation Design Guide and the ESRs and PTS's are noted, the ESR's and PTS's have priority.

Administration Building Bubble Diagram



Space Name	# of spaces	Unit SF (Net)	Total SF (Net)	Total SQM (Net)	Ideal Dimensions?	Ceiling Height (ft)	Ceiling Height (cm)	# of Occupants	Remarks
Administration Building									
Corridor	1	AS REQ.	AS REQ.	AS REQ.		8	243.84	0	
Briefing	2	590	1180	109.63		9	274.32	44	
Office	1	200	200	18.58		8	243.84	4	
Site Manager's Office	1	150	150	13.94		8	243.84	1	
Unisex Head	1	85	85	7.90		8	243.84	0	
Unisex Shower	1	35	35	3.25		8	243.84	0	
Unisex Locker Room	1	55	55	5.11		8	243.84	0	
Men's Head	1	125	125	11.61		8	243.84	0	
Men's Shower	1	55	55	5.11		8	243.84	0	
Men's Locker	1	75	75	6.97		8	243.84	0	
Janitor	1	35	35	3.25		8	243.84	0	
Mechanical Room	1	AS REQ.	AS REQ.	AS REQ.		8	243.84	0	
Electrical Room	1	AS REQ.	AS REQ.	AS REQ.		8	243.84	0	
SIPRNet Room	1	AS REQ.	AS REQ.	AS REQ.		8	243.84	0	
Subtotal Net Area			1995	185.34					
Net to Gross Factor			1.44	1.44					
TOTAL GROSS AREA			2873	266.89					
The design build contractor shall provide actual area in both square feet and square meters in proposals.									

Space Name	# of spaces	Unit SF (Net)	Total SF (Net)	Total SQM (Net)	Ideal Dimensions?	Ceiling Height (ft)	Ceiling Height (cm)	# of Occupants	Remarks
CQC Training Building									
Shoot House	1	22200	22200	2062.45	See Floor Plans	18	548.64	0	
Fire Pump Room	1	AS REQ.	AS REQ.	AS REQ.		AS REQ.	AS REQ.	0	Space to be taken from Storage area
Electrical	1	AS REQ.	AS REQ.	AS REQ.		AS REQ.	AS REQ.	0	Space to be taken from Storage area
Comm Room	1	AS REQ.	AS REQ.	AS REQ.		AS REQ.	AS REQ.	0	Space to be taken from Storage area
Siprnet Room	1	AS REQ.	AS REQ.	AS REQ.		AS REQ.	AS REQ.	0	Space to be taken from Storage area
Staging	1	1689	1689	156.91		18	548.64	0	
Storage	1	1808	1808	167.97		18	548.64	0	
Subtotal Net Area			25697	2387.33					
Net to Gross Factor									
TOTAL GROSS AREA			26038	2419.00					see notes concerning the allowable areas
The design build contractor shall provide actual area in both square feet and square meters in proposals.									

5. ROOM REQUIREMENTS

5A. ADMINISTRATION BUILDING

SPACE NAME: Corridor

Space Characteristics				
Function/adjacencies: Provides Access from Outside to Required Rooms				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 8'				
Acoustics: N/A				
Access: Two Doors from Outside, One Door from Each Briefing Room, and One Door from Janitor, Unisex, Men, Office and Site Manager (If there is no access from Office.)				
Number of Occupants: 0				
Other/special requirements: Corridor shall be 5' wide minimum.				
Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	2	914 mm x 2134 mm	Provide narrow light in door
B203008	Exterior Door Hardware:	2	AR	Full weather stripping, rain deflector, etc. Keyed lockset and card reader at each door
C1010	Partitions:	AR	AR	CMU with GWB closure partition above ceiling
C103007	Fire Extinguisher Cabinets:	AR	AR	Semi-recessed Cabinets
C103014	Entrance Floor Grilles and Mats:	2	AR	Recessed pan mat at two main entrances
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Linoleum or quartz tile
C302008	Wall Base:	AR	AR	Resilient
C3030	Ceiling Finishes:	AR	AR	Suspended acoustical tile, 610 mm x 610 mm.
D2010	Plumbing: Drinking Fountains	2	AR	HC, Hi/Lo type combination water cooler, sensor-operated.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning. Max NC 40.

SPACE NAME: Briefing Room

Space Characteristics				
Function/adjacencies: Room to be Used for Briefing Before and After Shooting Range Exercises. Room to be used Also for Hand-to-Hand Combat Training.				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2700 mm				
Acoustics: Retractable Partition to have wall above briefing room shall have STC Rating of 45. Wall Above partition shall have STC 45 rating.				
Access: Access from Corridor				
Number of Occupants: 44 Total (22 each half)				
Other/special requirements: exterior wall facing CQC trainer shall not have any windows, if applicable				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2020	Exterior Windows:	4 min.	AR	Prefinished Aluminum
C1010	Partitions:	AR	AR	CMU.
C101003	Retractable Doors: Folding Panel Doors	1	AR	STC rating of 45. Provided continuous sound barrier above panel with similar acoustical properties
C1020	Interior Doors:	2	914 mm x 2032 mm (min.)	Painted hollow metal door and frame.
C102007	Interior Door Hardware:	2	AR	Hardware with keyed lockset from corridor.
C103003	Marker Boards and Tack Boards:	4	AR	Marker Boards: Two in each briefing room.
C103004	Identifying Devices:	2	AR	Room Signs: At each room entrance. Message: "Briefing".
C103099	Other Interior Specialties:	2	AR	Overhead projector support. Provide wiring for computer connection. Terminate in wall terminal. Provide power receptacle. Ceiling mounted.
C103099	Other Interior Specialties:	2	1520 mm x 2939 mm (min.)	Projector Screen. Motorized retractable, concealed, ceiling mounted.
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Resilient
C302008	Wall Base:	AR	AR	Resilient
C3030	Ceiling Finishes:	AR	AR	Suspended acoustical tile, 610 mm x 610 mm.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning. Briefing rooms alternate occupancy. Max NC 30.
E201002	Window Treatments: Blinds	AR	AR	Horizontal metal blinds
D5020	Electrical: Branch Wiring	AR	AR	Provide receptacle for overhead projector and data port.
D503001	Telecommunication	AR	AR	Provide data outlet for overhead projection system.

SPACE NAME: Office

Space Characteristics				
Function/adjacencies: Provides Workspace for Four Instructors				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Corridor				
Number of Occupants: 4				
Other/special requirements: exterior wall facing CQC trainer shall not have any windows, if applicable				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2020	Exterior Windows:	1	AR	Prefinished Aluminum
C1010	Partitions:	AR	AR	CMU
C1020	Interior Doors:	1	914 mm x 2032 mm (min.)	Painted hollow metal door and frame.
C102007	Interior Door Hardware:	1	AR	Hardware with keyed lockset from corridor.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Office".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Resilient
C302008	Wall Base:	AR	AR	Resilient
C3030	Ceiling Finishes:	AR	AR	Suspended acoustical tile, 610 mm x 610 mm.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning. Max NC 35.
D503001	Telecommunication Systems: nprnet Outlet / Phone Outlet	Minimum 4 of each	AR	Coordinate exact quantity with the activity.
E201002	Window Treatments: Blinds	AR	AR	Horizontal metal blinds
D5020	Electrical: Branch Wiring	AR	AR	Provide double duplex receptacle at each data outlet.

SPACE NAME: Site Manager's Office

Space Characteristics				
Function/adjacencies: Private Office for Manager				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Corridor or Office				
Number of Occupants: 1				
Other/special requirements: exterior wall facing CQC trainer shall not have any windows, if applicable				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2020	Exterior Windows:	1	AR	Prefinished Aluminum
C1010	Partitions:	AR	AR	CMU. Provide partition to roof above for rooms with PDS. Partition above ceiling line may be gypsum board on metal studs.
C1020	Interior Doors:	1	914 mm x 2032 mm (min.)	Painted hollow metal door and frame.
C102007	Interior Door Hardware:	1	AR	Hardware with keyed lockset from corridor. Provide special hardware as required for Protected Distribution System
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Site Manager".
C103008	Counters:	1	1520 mm min.	Plastic laminate
C103009	Cabinets:	1	1520 mm min.	Plastic laminate. Provide base and wall cabinets
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Resilient
C302008	Wall Base	AR	AR	Resilient
C3030	Ceiling Finishes: SAT	AR	AR	Suspended acoustical tile, 610 mm x 610 mm.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning. Max NC 35.
D503001	Telecommunication Systems: Nipnet Outlet / Phone Outlet / Sipnet Outlet	Minimum of 2 each	AR	Coordinate the exact quantity with the Activity.
E201002	Window Treatments: Blinds	AR	AR	Horizontal metal blinds

SPACE NAME: Unisex Head

Space Characteristics				
Function/adjacencies:				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Corridor				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
C1010	Partitions:	AR	AR	CMU
C1020	Interior Doors: Hollow Metal	1	914 mm x 2032 mm (min.)	Painted hollow metal frame.
C102007	Interior Door Hardware:	1	AR	Hardware with keyed lockset from corridor.
C103001	Toilet Partitions:	1	AR	Provide 1 per water closet. Provide 1 accessible stall for water closet.
C103002	Toilet and Bath Accessories:	1 each	AR	Provide mirror above lavatory; 1 paper towel dispensers, 1 hand soap dispenser – counter mounted with spout extending into the lavatory, 1 waste receptacle, and 1 toilet paper dispenser. Provide coat hook at toilet partition. Provide other accessories as determined.
C103004	Identifying Devices: Room Sign	1	AR	At each room entrance. Message: "Head No. 2".
C3010	Wall Finishes:	AR	AR	Ceramic tile wainscot and base, including wing walls.
C3010	Wall Finishes:	AR	AR	Paint CMU - Epoxy
C3020	Floor Finishes:	AR	AR	Porcelain Tile
C3030	Ceiling Finishes:	AR	AR	Gypsum Board, Paint
D2010	Plumbing: Water Closets	1	AR	HC, Floor mounted, low flow, sensor controlled.
D2010	Plumbing: Lavatory	1	AR	HC, Wall mounted low flow, sensor controlled.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Unisex Shower

Space Characteristics				
Function/adjacencies: locate between locker room and head				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: From locker room and unisex head. Access shall be from locker room side or a connecting corridor				
Number of Occupants: 0				
Other/special requirements:				

Unifomat Section	Description	Qty	Size	Specific Requirements
C1010	Partitions:	AR	AR	CMU – partition to structure above. Partition above ceiling may be gypsum board on metal studs.
C103002	Toilet and Bath Accessories:	2	AR	Robe hook, soap dish
C103002	Toilet and Bath Accessories:	1	AR	Shower curtain and rod
C103002	Toilet and Bath Accessories:	1	AR	Shower seat
C1020	Interior Doors: Hollow Metal	1	914 mm x 2032 mm (min.)	Painted hollow metal frame.
C102007	Interior Door Hardware:	1	AR	Hardware with privacy set.
C3010	Wall Finishes:	AR	AR	Full height ceramic tile walls and base, including wing walls.
C3020	Floor Finishes:	AR	AR	Porcelain ceramic tile
C3030	Ceiling Finishes:	AR	AR	Water resistant gypsum board
D2010	Plumbing: Mixing Valve	1	AR	Temperature/pressure balanced, Low flow.
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Unisex Locker Room

Space Characteristics				
Function/adjacencies:				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: From exterior and from Shower.				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2032 mm (min.)	Hollow metal door and frame, paint
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C103005	Lockers: Metal	AR	AR	Min. six full height; 230 mm x 455 mm deep x 1830 mm high
C103099	Other Interior Specialties:	AR	AR	Locker room bench
C3010	Wall Finishes:	AR	AR	Ceramic tile wainscot and base.
C3010	Wall Finishes:	AR	AR	Paint CMU
C3020	Floor Finishes:	AR	AR	Porcelain ceramic tile
C3030	Ceiling Finishes:	AR	AR	Water resistant gypsum board.
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Men's Head

Space Characteristics				
Function/adjacencies:				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Corridor				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
C1010	Partitions:	AR	AR	CMU
C1020	Interior Doors: Hollow Metal	1	914 mm x 2032 mm (min.)	Painted hollow metal frame.
C102007	Interior Door Hardware:	1	AR	Hardware with push pull.
C103001	Toilet Partitions:	1	AR	Provide 1 per water closet. Provide 1 accessible stall for water closet.
C103002	Toilet and Bath Accessories:	1 each	AR	Provide mirror above lavatory; 1 paper towel dispensers, 1 hand soap dispenser – counter mounted with spout extending into the lavatory, 1 waste receptacle, and 1 toilet paper dispenser. Provide coat hook at toilet partition. Required handicap grab bar.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Men's Head".
C3010	Wall Finishes:	AR	AR	Ceramic tile wainscot and base, including wing walls.
C3010	Wall Finishes:	AR	AR	Paint CMU – Epoxy
C3020	Floor Finishes:	AR	AR	Porcelain ceramic tile
C3030	Ceiling Finishes:	AR	AR	Gypsum Board, Paint
D2010	Plumbing: Water Closets	3	AR	HC, Floor mounted, low flow, sensor controlled.
D2010	Plumbing: Lavatories	AR	AR	HC, Wall mounted low flow, sensor controlled.
D2010	Plumbing: Urinal	2	AR	HC, Wall mounted, low flow, sensor controlled.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Men's Shower

Space Characteristics				
Function/adjacencies:				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: From Men's Locker room or connecting corridor				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
C1010	Partitions:	AR	AR	CMU
C1020	Interior Doors: Hollow Metal	1	914 mm x 2032 mm (min.)	Painted hollow metal frame.
C102007	Interior Door Hardware:	1	AR	Hardware with privacy set.
C103002	Toilet and Bath Accessories:	2	AR	Robe hooks, soap dish
C103002	Toilet and Bath Accessories:	1	AR	Shower curtain and rod
C103002	Toilet and Bath Accessories:	1	AR	Shower seat
C3010	Wall Finishes:	AR	AR	Full height ceramic tile walls and base, including wing walls.
C3020	Floor Finishes:	AR	AR	Porcelain ceramic tile
C3030	Ceiling Finishes:	AR	AR	Water resistant gypsum board, paint
D2010	Plumbing: Mixing Valve	1	AR	Temperature/Pressure balanced. Low flow.
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Men's Locker Room

Space Characteristics				
Function/adjacencies:				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: From exterior and from men's shower				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2032 mm (min.)	Hollow metal door and frame, paint
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C103005	Lockers: Metal	AR	AR	Min. six full height; 230 mm x 455 mm deep x 1830 mm high
C103099	Other Interior Specialties:	AR	AR	Locker room bench
C3010	Wall Finishes:	AR	AR	Ceramic tile wainscot and base.
C3010	Wall Finishes:	AR	AR	Paint CMU - Epoxy
C3020	Floor Finishes:	AR	AR	Porcelain ceramic tile
C3030	Ceiling Finishes:	AR	AR	Water resistant gypsum board, paint
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D30	Mechanical: HVAC	AR	AR	Provide heating, ventilation, and air conditioning.

SPACE NAME: Janitor

Space Characteristics				
Function/adjacencies: Storage of Building Maintenance Supplies and Tools as well as a Mop Sink.				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Corridor				
Number of Occupants: 0				
Other/special requirements: Floor Drain				

Uniformat Section	Description	Qty	Size	Specific Requirements
C1010	Partitions:	AR	AR	Painted CMU
C1020	Interior Doors: Hollow Metal	1	914 mm x 2032 mm (min.)	Painted hollow metal door and frame.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Janitor".
C103006	Shelving:	AR	AR	Wall mounted.
C103099	Other Interior Specialties:	1	AR	Wall mounted mop rack.
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
C3030	Ceiling Finishes:	AR	AR	Painted GWB
D2010	Plumbing: Sinks	1	AR	Trap standard service sink with heavy duty faucet.
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D30	Mechanical: HVAC	AR	AR	Provide heating and ventilation.

SPACE NAME: Mechanical Room

Space Characteristics				
Function/adjacencies: Contains all Required Mechanical Equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	2 914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders on both active and inactive leaves, rain deflector, etc. Keyed lockset on active leaf. Surface bolts on inactive leaf.
C1010	Partitions:	AR	AR	CMU
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Mechanical".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D2010	Plumbing: Floor Drain	1	AR	With trap primer.
D20	Plumbing: Water Heaters	AR	AR	Electric, dual element storage type
D30	Mechanical: HVAC	AR	AR	Provide heating and ventilation.
D5020	Electrical: Branch Wiring	AR	AR	Provide power for DDC.
D503001	Telecommunications	AR	AR	Provide data outlet for DDC.

SPACE NAME: Electrical Room

Space Characteristics				
Function/adjacencies: Contains all Required Electrical Equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	Hollow metal door and frame
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Electrical".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and ventilation.

SPACE NAME: Siprnet Room

Space Characteristics				
Function/adjacencies: Contains all Required Communications equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders, rain deflector, etc. Combination Lock.
C1010	Partitions:	AR	AR	CMU full height. Comply with PDS room construction requirements.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Comm Room #2".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and air conditioning.

SPACE NAME: Comm Room

Space Characteristics				
Function/adjacencies: Contains all Required Communications equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Comm Room #1".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and air conditioning.

5. ROOM REQUIREMENTS
5B. CQC TRAINER

SPACE NAME: Zone F

Space Characteristics				
Function/adjacencies: This space serves as a "streetscape" transitioning to a "yard."				
Special Dimensions: See layout on drawings				
Acoustics: N/A				
Access: personnel doors from the Exterior. Overhead service door from the exterior				
Number of Occupants: 0				
Other/special requirements: "Yard" condition will include the installation of a precast concrete system. All components will be bullet resistant per the RFP. The ventilation system will be a custom designed and constructed system. The exhaust system will be below the slab and will have exhaust registers as specified in the RFP. See room requirements "Catwalk Level" for requirements.				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Roll up Door	1	2400mm w x 3000mm	Provide AR 500 rolling panel to protect door from damage.
C3030	Ceiling Finishes	AR	AR	Paint exposed construction.
C3040	Wall Finishes	AR	AR	Paint all wall surfaces without rubber sheets
F1040	Exterior Wall	AR	AR	Ballistic wall, see ESR F10
F1040	Door Hardware	AR	AR	Full weatherstripping, overhead holders, rain deflector, etc. Keyed exit device.
F1040	HVAC	AR	AR	Provide range ventilation system. Max allowable NC from mechanical equipment is 50.
F1040	Floor Finish	AR	AR	Resilient interlocking tile
F1040	Steel doors and frames	AI	914mm x 2134mm	Level 8 bullet resistant door and frame, paint
F1040	Steel Doors and Frames	AI	1220mm x 2131mm	Level 8 bullet resistant door and frame, paint
F1040	Interior partitions	AR	AR	Ballistic partitions, see ESR F10
F1040	Window Openings	10	As determined	Provide framed openings, see ESR F10. Windows shall be various sizes and shall be at different levels. Typical window size shall be 900mm x 900 mm.
F1040	Fence and Gate	As indicated		See additional requirements in G2040

SPACE NAME: Zone 1

Space Characteristics				
Function/adjacencies: Live fire training space				
Special Dimensions: See layout on drawings				
Acoustics: N/A				
Access: as indicated on concept layout				
Number of Occupants: 0				
Other/special requirements: All components will be bullet resistant per the RFP. The ventilation system will be a custom designed and constructed system. The exhaust system will be below the slab and will have exhaust registers as specified in the RFP. See room requirements "Catwalk Level" for requirements.				

Uniformat Section	Description	Qty	Size	Specific Requirements
C3030	Ceiling Finishes	AR	AR	Paint exposed construction.
C3040	Wall Finishes	AR	AR	Paint all wall surfaces without rubber sheets
F1040	Exterior Wall	AR	AR	Ballistic wall, see ESR F10
F1040	Steel doors and frames	AI	914mm x 2134mm	Level 8 bullet resistant door and frame, paint
F1040	Steel Doors and Frames	AI	1220mm x 2131mm	Level 8 bullet resistant door and frame, paint
F1040	Framed Openings	AI	1220mm x 2450mm	Provide per ESR F10
F1040	Interior partitions	AR	AR	Ballistic partitions, see ESR F10
F1040	Floor Finish	AR	AR	Resilient interlocking tile
F1040	HVAC	AR	AR	Provide range ventilation system. Max allowable NC from mechanical equipment is 50.
F1040	Window Openings	10	As determined	Provide framed openings, see ESR F10. Windows shall be various sizes and shall be at different levels. Typical window size shall be 900mm x 900 mm.
F1040	Opening protection	AI	AR	Provide sliding ballistic panels for door and window openings

SPACE NAME: Zone 2

Space Characteristics				
Function/adjacencies: Live Fire Training Space				
Special Dimensions: See layout on drawings				
Acoustics: N/A				
Access: as indicated on concept layout				
Number of Occupants: 0				
Other/special requirements: All components will be bullet resistant per the RFP. The ventilation system will be a custom designed and constructed system. The exhaust system will be below the slab and will have exhaust registers as specified in the RFP. See room requirements "Catwalk Level" for requirements.				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Roll up Door	1	2400mm w x 3000mm	Provide AR 500 rolling panel to protect door from damage.
C3030	Ceiling Finishes	AR	AR	Paint exposed construction.
C3040	Wall Finishes	AR	AR	Paint all wall surfaces without rubber sheets
F1040	Exterior Wall	AR	AR	Ballistic wall, see ESR F10
F1040	Steel Doors and Frames	AI	1220mm x 2131mm	Level 8 bullet resistant door and frame, paint. Include hardware and weather stripping
F1040	Steel doors and frames	AI	914mm x 2134mm	Level 8 bullet resistant door and frame, paint
F1040	Opening protection	AI	AR	Provide sliding ballistic panels for door and window openings
F1040	Framed Openings	AI	1220mm x 2450mm	Provide per ESR F10
F1040	Interior partitions	AI	AR	Ballistic partitions, see ESR F10
F1040	Ballistic Gate	AI	AR	See ESR F10
F1040	Floor Finish	AR	AR	Resilient interlocking tile
F1040	HVAC	AR	AR	Provide range ventilation system. Max allowable NC from mechanical equipment is 50.
F1040	Fence and Gate	As indicated	AR	See additional requirements in G2040

SPACE NAME: Zone 3

Space Characteristics				
Function/adjacencies: training rooms				
Special Dimensions: See layout on drawings				
Acoustics: N/A				
Access: as indicated on concept layout				
Number of Occupants: 0				
Other/special requirements: All components will be bullet resistant per the RFP. The ventilation system will be a custom designed and constructed system. The exhaust system will be below the slab and will have exhaust registers as specified in the RFP. See room requirements "Catwalk Level" for requirements.				

Uniformat Section	Description	Qty	Size	Specific Requirements
C3030	Ceiling Finishes	AR	AR	Paint exposed construction.
C3040	Wall Finishes	AR	AR	Paint all wall surfaces without rubber sheets
F1040	Exterior Wall	AR	AR	Ballistic wall, see ESR F10
F1040	Steel Doors and Frames	AI	1220mm x 2131mm	Level 8 bullet resistant door and frame, paint. Hardware and weatherstripping
F1040	Window opening	AI	914mm x 914mm	Framed window openings with sliding bullet resistant panel on the exterior. See ESR F10
F1040	Framed Openings	AI	1220mm x 2450mm	Provide per ESR F10
F1040	Interior partitions	AR	AR	Ballistic partitions, see ESR F10
F1040	Opening protection	AI	AR	Provide sliding ballistic panels for door and window openings
F1040	Floor Finish	AR	AR	Resilient interlocking tile
F1040	HVAC	AR	AR	Provide range ventilation system. Max allowable NC from mechanical equipment is 50.

SPACE NAME: STAGING ROOM

Space Characteristics	
Function/adjacencies: temporary staging area	.
Special Dimensions: Ideal Plan Dimensions: See layout	
Acoustics: N/A	
Access: Access from outside only.	
Number of Occupants: temporary occupancy	
Other/special requirements: One Armory unit furnished and install by the government, approximately 3000 mm x 3700 mm' will be placed the space. The floor slab shall be designed to accommodate the loads of the armory. Benches to be against walls. One corner should receive a built-in work bench for the repair of equipment and CQC props.	

Uniformat Section	Description	Qty	Size	Specific Requirements
B2010	Exterior Wall	AR	AR	
B2030	Roll up Door	1	3700mm w x 4300mm	Motorized
B2030	Exterior Doors:	2	914 mm x 2032 mm (min.)	Hollow metal door and frame, paint
B203008	Exterior Door Hardware:	2	AR	Full weather stripping, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU - The partition separating the training rooms shall be ballistic and shall have the same ballistic requirements as the exterior wall construction. The ballistic protection shall be provided on the training side only. The partition may be constructed of masonry but must have ballistic protection to the ballistic roof envelope.
C103004	Identifying Devices:	2	AR	Room Signs: At each room entrance. Message: "Staging".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
C3030	Ceiling Finishes	AR	AR	Paint exposed construction.
D30	Mechanical: HVAC	AR	AR	Provide heating, and ventilation.

SPACE NAME: STORAGE ROOM

Space Characteristics				
Function/adjacencies: Storage for CQC-related props and equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height:				
Acoustics: N/A				
Access: Single Door from outside only.				
Number of Occupants: 0				
Other/special requirements: Storage room size will vary depending upon the sizes of the Comm., Siprnet, Fire Protection, and Electrical Rooms.				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2010	Exterior Wall	AR	AR	
B2030	Roll up Door	1	2400mm w x 3000mm	Motorized
B2030	Exterior Doors:	1	2 914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C3010	Wall Finishes:	AR	AR	Paint
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Storage".
C3020	Floor Finishes:	AR	AR	Sealed Concrete
F1040	Interior Partitions	AI	AR	The partition separating the training rooms shall be ballistic and shall have the same ballistic requirements as the exterior wall construction. The ballistic protection shall be provided on the training side only. The partition may be constructed of masonry but must have ballistic protection to the ballistic roof envelope.
D3040	Mechanical & HVAC	AR	AR	Ventilate and de-humidify to no more than 60% relative humidity.

SPACE NAME: FIRE PUMP ROOM

Space Characteristics				
Function/adjacencies: Contains Fire Pump for Sprinkler System				
Special Dimensions: Ideal Plan Dimensions: Locate where indicated on the plan. Size may be adjusted as required to accommodate equipment. Minimum Ceiling Height:				
Acoustics: N/A				
Access: Accessed from Outside Door Only				
Number of Occupants: 0				
Other/special requirements: Must Have its Own Ceiling				

Uniformat Section	Description	Qty	Size	Specific Requirements
B1010	Exterior Wall	AR	AR	
C1010	Partitions:	AR	AR	CMU, full height
D30	HVAC	AR	AR	Provide heating and ventilation.
D4010	Fire Alarm & Mass Notification System Components	1	AR	
D503005	Empty conduit for future CCTV system	Empty conduit for future monitor	AR	Fire Alarm Annunciator & Mass Notification Local Operator Control
F1040	Interior Partitions	AI	AR	The partition separating the training rooms shall be ballistic and shall have the same ballistic requirements as the exterior wall construction. The ballistic protection shall be provided on the training side only. The partition may be constructed of masonry but must have ballistic protection to the ballistic roof envelope.

SPACE NAME: ELECTRICAL ROOM

Space Characteristics				
Function/adjacencies: Contains all Required Electrical Equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 8'				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	Hollow metal door and frame
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU, full height.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Electrical".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and ventilation.
F1040	Interior Partitions	AI	AR	The partition separating the training rooms shall be ballistic and shall have the same ballistic requirements as the exterior wall construction. The ballistic protection shall be provided on the training side only. The partition may be constructed of masonry but must have ballistic protection to the ballistic roof envelope.

SPACE NAME: Comm Room

Space Characteristics				
Function/adjacencies: Contains all Required Communications equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders, rain deflector, etc. Keyed lockset.
C1010	Partitions:	AR	AR	CMU
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Comm Room #1".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and air conditioning.

SPACE NAME: Siprnet Room

Space Characteristics				
Function/adjacencies: Contains all Required Communications equipment				
Special Dimensions: Ideal Plan Dimensions: N/A Minimum Ceiling Height: 2400 mm				
Acoustics: N/A				
Access: Single Door from Outside Only				
Number of Occupants: 0				
Other/special requirements:				

Uniformat Section	Description	Qty	Size	Specific Requirements
B2030	Exterior Doors:	1	914 mm x 2134 mm	
B203008	Exterior Door Hardware:	1	AR	Full weather stripping, overhead holders, rain deflector, etc. Combination Lock.
C1010	Partitions:	AR	AR	CMU full height. Comply with PDS room construction requirements.
C103004	Identifying Devices: Room Sign	1	AR	At room entrance. Message: "Comm Room #2".
C3010	Wall Finishes:	AR	AR	Paint
C3020	Floor Finishes:	AR	AR	Sealed Concrete
D30	Mechanical: HVAC	AR	AR	Provide heating and air conditioning.

SPACE NAME: CATWALK LEVEL (All Zones)

Space Characteristics				
Function/adjacencies: Observation level to be used by staff only.				
Special Dimensions:				
Acoustics: N/A				
Access: as indicated on concept layout				
Number of Occupants: 0				
Other/special requirements: headroom above the catwalk shall be 2100mm minimum.				

Uniformat Section	Description	Qty	Size	Specific Requirements
F1040	Exterior Wall	AR	AR	Ballistic wall, see ESR F10
F1040	Steel Doors and Frames	AI	914mm x 2131mm	Level 8 bullet resistant door and frame, paint. Hardware and weatherstripping
F1040	Catwalk	AI	AR	760mm wide open grating, galvanized
F1040	Railings	AI	AR	Galvanized steel pipe or tube, industrial application
D5020	Lighting Equipment	AR	AR	Locate controls at each access door at catwalk level.

6. ENGINEERING SYSTEMS REQUIREMENTS

A10 FOUNDATIONS

SYSTEM DESCRIPTION

Provide the building foundation system in accordance with UFC 3-300-10N, *Structural Engineering*. Foundation shall be designed to suit subsurface conditions, and shall be capable of transmitting all building loads to the ground.

Importance Factors

Use Occupancy Category II in Table 1 of UFC 3-310-01 for determining Importance Factors for seismic, snow, and wind design. The corresponding Seismic Use Group is II.

Wind Exposure

Wind design shall be based on Exposure C.

Government Provided Subsurface Information

Subsurface soil information, including a geotechnical report, are included in other portions of this RFP.

Any included subsurface data and information is only for the Contractor's information and is not guaranteed to fully represent all subsurface conditions. The Government shall not be responsible for any interpretation or conclusion by the Contractor drawn from the data or information.

Any geotechnical report included with site investigation data is provided only to better convey data (boring logs, testing, etc.) or to document observed site conditions. The

assumptions, analysis, and recommendations of the accompanying report were developed for preliminary planning purposes only and may not be based upon present project requirements. Requirements stated in Parts 3 and 4 of the RFP take precedence over any content of any included geotechnical report.

The Contractor is required to retain a geotechnical engineer experienced and licensed in the geographic region of the project to interpret the provided data as related to his design concept and develop requirements for bidding. Additional requirements for the geotechnical design of this project are provided elsewhere in this RFP.

Minor variations between borings should be anticipated. The Contractor shall bear all costs associated with the site preparation and actual foundation except as allowed by the Contract Clause FAR 52.236-2, "Differing Site Conditions". The Contractor's Geotechnical Engineer shall perform additional subsurface investigation as required to adequately determine all applicable geotechnical factors including the type and capacity of the project foundation(s). The Contractor's Geotechnical Engineer shall consider the provided information and any additional information obtained and prepare a report as described in other portions of this RFP.

A10 GENERAL

The Contractor shall commission the services of a geotechnical engineer registered as a Professional Engineer and experienced with the soils in the Geographic region of the project.

Subsurface soil information, including a geotechnical report are included in other portions of this RFP.

As a minimum, the successful bidder's Geotechnical Engineer shall perform 3 borings to a depth of 30 feet, and supplementary laboratory

classification of soils encountered, on the building site to support the foundation.

Seismic Site Classification shall be determined in accordance with UFC 3-310-04, *Seismic Design for Buildings*, and the 2008 USGS Ground Acceleration Maps.

A1010 STANDARD FOUNDATIONS

See "System Description" above. The foundation construction may include any foundation system meeting the requirements of this section. Do not use timber footings or wood foundations.

A1030 SLAB ON GRADE

As determined by the designer of record to be applicable, provide either a standard or structurally supported concrete slab on grade. Where slab on grade is below the existing adjacent exterior grade, provide a perimeter drainage system to remove ground water from the area immediately adjacent to the buildings. Provide perimeter insulation. When providing a structurally supported slab, provide for support of all utilities that may be adversely affected by soil consolidation or expansive soils. Provide stainless steel supports sized adequately to support the in-service utility. Provide thickened slab areas for skeet armory and any other large mechanical and electrical equipment.

Coordinate with Section F10 for mechanical trenches and pits.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B10 SUPERSTRUCTURE

SYSTEM DESCRIPTION

Provide the building framing system in accordance with UFC 3-300-10N, *Structural Engineering*.

Importance Factors

Use Occupancy Category II in Table 1 of UFC 3-310-01 for determining Importance Factors for seismic, snow, and wind design. The corresponding Seismic Use Group is II.

Wind Exposure

Wind design shall be based on Exposure C.

B1020 ROOF CONSTRUCTION

The roof construction may include any structural framing system meeting the requirements of this section. a pre-engineered metal building system., steel roof deck on steel joists, steel roof deck on steel beams, non-composite concrete slabs on form deck on steel joists, non-composite concrete slabs on form deck on steel beams, composite concrete slabs on composite steel deck, cast-in-place concrete slabs on removable forms, precast concrete slabs. The roof deck may be supported on cast-in place concrete walls, precast concrete walls, concrete masonry walls, ,steel columns and steel beams, steel columns and joist girders or concrete columns and concrete beams The roof of the CQC Trainer must provide protection consisting of steel plate, 4" of reinforce concrete or ballistic panels. System shall provide Level 5 ballistic protection.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B20 EXTERIOR ENCLOSURE

SYSTEM DESCRIPTION

This system consists of the exterior shell of the facility, which includes all vertical and horizontal exterior closure such as exterior walls, exterior windows, and exterior doors. This system excludes roofing (See System B30, *Roofing*). Load bearing exterior walls will be included here, and not in System B10, *Superstructure*. Structural frame elements at exterior such as columns, beams, and spandrels are included in Superstructure, with only the applied exterior finishes (e.g., paint, stucco) being included here. Finishes to the inside face of walls which are not an integral part of the wall construction will be included in System C30, *Interior finishes*.

GENERAL SYSTEMS REQUIREMENTS

B2010 EXTERIOR WALLS

CQC Trainer

The exterior material of the building shall be, concrete, prefinished metal wall panels, painted steel.

The exterior wall closure of the CQC trainer is required to be bullet resistant as specified in Section F10 SPECIAL CONSTRUCTION. The exterior closure may be comprised of multiple assemblies to meet the bullet resistive requirements. The specific assembly shall be as selected by the Designer of Record. Exterior appearance shall be as required to meet the design standards of Fort Story.

Administration Building

The exterior material of the building shall be brick masonry Brick masonry details shall be consistent with the similar administrative type buildings on Fort Story

Back-up wall system for veneer construction shall be concrete masonry.

B201001 EXTERIOR CLOSURE

For the Administration Building provide brick veneer exterior wall closure. Provide metal prefabricated panel exterior wall closure. Metal may have exposed fasteners.

For the CQC Trainer provided one of the following:

Provide concrete exterior wall closure.

Provide or vertical sheet panels of manufactured faced panels system exterior wall closure.

B201002 EXTERIOR WALL BACKUP CONSTRUCTION

Provide Exterior Wall Construction System (back-up systems for wall veneer) including cast-in-place concrete wall systems with insulation when integral with expansion control as described below:

B201003 INSULATION AND VAPOR RETARDER

Provide insulation and vapor barriers.

B201005 EXTERIOR LOUVERS & SCREENS

Provide exterior louvers and screens, where required, that match the finish of the existing windows and detailed to integrate with the architecture of the building, as appropriate to the design of the building.

Exterior louvers, if used, shall provide the same ballistic protection as the walls based on the location of the wall.

B201007 EXTERIOR SOFFITS

Provide exterior soffit system metal.

B201009 EXTERIOR PAINTING AND COATINGS

Provide field applied exterior coatings for all items that are not prefinished, and to prefinished items when required to provide a color other than a standard prefinished color.

B201010 EXTERIOR JOINT SEALANTS

Provide exterior application of joint sealants to seal joints and prepare for finish material installation.

B2020 EXTERIOR WINDOWS

As much as practical, windows shall be provided in each area of the building that is regularly occupied, to enhance the working environment, without compromising visual acuity and comfort. Natural daylighting is preferred. Exterior windows shall be prefinished aluminum. Windows shall meet Antiterrorism requirements.

B202001 WINDOWS

Determine the construction of security windows by evaluating the project program security requirements, using the Mil Hdbk 1013/1A, *Design Guidance for Physical Security of Facilities*, to define window requirements.

Windows shall be aluminum operable. Operable windows shall be provided with an integral insect screen.

Windows shall satisfy the IBC requirements for protection of openings wind-borne debris regions.

B202004 EXTERIOR GLAZING

Glazing color shall be clear or tinted neutral gray.

Glazing shall be clear glass insulating glass units.

Glazing shall satisfy the IBC requirements for protection of openings in wind-borne debris regions.

B2030 EXTERIOR DOORS

Provide solid door assemblies other than at the main entrance. Exterior doors and frames shall be non-corroding galvanized steel.

Doors shall be Extra Heavy Duty Doors -- ANSI /SDI A250.8, Level 3, physical performance Level A, Model 1.

Glazing shall match the window glazing.

Bullet resistant doors – see Section F10.

B203001 SOLID DOORS

Provide solid steel door assemblies other than at main entrances including painted galvanized heavy-duty, non-corroding, insulated doors with frames and hardware. Also provide accessories and wall opening elements such as lintels, sills and flashings .

B203002 GLAZED DOORS

Glazed Doors - Provide Exterior Glazed Doors and Entrances System. Including factory-finish steel framed door assemblies with insulated, glazing, frames, and hardware compatible with other buildings on the

base and wall opening elements such as lintels, sills, through-wall flashings, and joint sealers.

Glazing shall satisfy the IBC requirements for protection of openings in wind-borne debris regions.

B203004 OVERHEAD AND ROLL-UP DOORS

Overhead and roll-up doors shall be NAGDM 102 Commercial designation.

Doors for shall be sectional overhead type or rolling service type. Doors shall have automatic operation. Doors shall be motor operated .

B203008 EXTERIOR DOOR HARDWARE

Provide the services of a certified door hardware consultant to prepare the door hardware schedule.

Provide hardware keying compatible with the existing base-wide keying system. Replacement interchangeable cores shall be compatible with the Best Lock system.

Door hardware finish shall be stainless steel.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

B30 ROOFING

B30 GENERAL SYSTEM DESCRIPTION

Roof systems shall be watertight and compatible with facility function, construction, and service conditions. Provide complete roof system design and construction services for the entire new facility roof system, including all ancillary and incidental work necessary for a complete, new, watertight roof system installation.

Submittal Requirements: Components of a minimum roof submittal shall include the roof plan, method of drainage, standard details and details unique to the project, wind load calculations and requirements.

Refer to UFC 3-110-03, *Roofing*, and UFC 3-100-10N, *Architecture*, for additional roofing requirements.

B3010 ROOF COVERINGS

B301001 STEEP SLOPE ROOFING SYSTEMS

Steep slope roofing systems are preferred over low slope roofing systems, where practical. Steep slope roofing systems that are acceptable include metal and.

Roof system for the CQC trainer shall be bullet resistant, therefore a low sloped system is preferred for this building.

SSSMRS Warranty Certificate. At the completion of the project the Contractor shall furnish signed copies of the 5-year Warranty for Structural Standing Seam Metal Roof (SSSMR) System, a sample copy of which is attached to the PTS section, and the 20-year Manufacturer's

Material Warranties, and the manufacturer's 20-year system weather-tightness warranty.

Specular Gloss of Finished roof surfaces shall have a specular gloss value of 30 plus or minus at 60 degrees when measured in accordance with ASTM D 523.

B301002 LOW SLOPE ROOFING SYSTEMS

Wind Uplift - The complete roof covering assembly shall be rated Class 1- 60,75,90,105,120,135 or appropriate in accordance with FM P7825, capable of withstanding an uplift pressure of 90 pounds per square foot (with a safety factor of 2), and FM I-49 for perimeter and flashing attachment.

A three ply modified system consisting of modified base sheet, modified bitumen interply sheet, and modified bitumen cap sheet is the system of choice for new low sloped roofing.

Low slope roofing systems that are acceptable include three-ply modified bitumen roofing.

Provide polyester reinforced cap sheet on Modified Bitumen roofs where equipment is expected to receive regular service or high maintenance, and where other service conditions warrant.

B301003 ROOF INSULATION AND FILL

For fastening roof insulation on low-slope membrane roofs, fasteners shall be placed to withstand and obtain an uplift pressure of 90 pounds per square foot (with a safety factor of 2) in the field of the roof and FM LPDS 1-49 for perimeter component and flashing attachment.

B301004 FLASHINGS AND TRIM

Flashing and sheet metal work shall include scuppers, splash pans, and sheet metal roofing. Flashings shall be Galvanized steel items shall

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have a baked-on, factory applied finish of polyvinylidene fluoride or an equivalent fluorocarbon coating Stainless Steel - ASTM A 167, Type 302 or 304.

B301005 GUTTERS AND DOWNSPOUTS

Provide gutters and downspouts compatible with roofing material and finish. Concealed (interior) gutters and downspouts are prohibited.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

C10 INTERIOR CONSTRUCTION

SYSTEM DESCRIPTION

Interior construction includes interior partitions, interior doors, and fittings.

Provide durable construction appropriate to the buildings use as an Administration Building. Acoustic properties of materials, as well as durability, shall be considered during material selection. See Section F10 for special construction requirements of the CQC Trainer.

GENERAL SYSTEMS REQUIREMENTS

Areas of the Project are subject to abuse and require that "impact Resistant" systems be provided. See "Room Requirements" for specific requirements on "Partitions", "Interior Doors", and "Fittings".

C1010 PARTITIONS

All interior partitions shall be concrete masonry.

Partitions in CQC Training Areas are ballistic steel and are described in Section F10.

C101001 FIXED PARTITIONS

Provide fixed interior partitions, except where demountable or retractable partitions are specifically required by the "Room Requirements." Sound-rated partition assemblies shall have a minimum Sound Transmission Coefficient (STC) of 42 in accordance with ASTM E 90 or ASTM E 413 for frequency data.

C101002 DEMOUNTABLE PARTITIONS

C101003 RETRACTABLE PARTITIONS

Provide retractable partitions to include operable panel partitions or accordion folding partitions. Sound-rated partition assemblies shall have a minimum Sound Transmission Coefficient (STC) of 45 in accordance with ASTM E 90 or ASTM E 413 for frequency data.

C101005 INTERIOR WINDOWS

Provide interior windows of hollow metal, fixed.

C101007 INTERIOR GLAZING

Interior glazing shall be laminated clear glass.

C1020 INTERIOR DOORS

C102001 STANDARD INTERIOR DOORS

All interior doors and frames shall be hollow metal.

Doors shall have field finish.

C102002 GLAZED INTERIOR DOORS

Provide vision glazing in doors where it is required by the "Room Requirements" portion of this RFP, or it is deemed advantageous to be able to see through the door, either for safety of pedestrian traffic, or other functional reason.

C102003 FIRE DOORS

C102007 INTERIOR DOOR HARDWARE

Lock cores shall match the BEST system.

Door hardware finish shall be chrome-plated brass or bronze, or stainless steel.

C1030 SPECIALTIES

C103001 COMPARTMENTS, CUBICLES, & TOILET PARTITIONS

Provide phenolic core toilet partitions in all toilet rooms with more than one water closet or urinal. Provide toilet accessories as indicated in Chapter 3, "Room Requirements" portion of this RFP.

C103002 TOILET AND BATH ACCESSORIES

Provide toilet and bath accessories.

C103003 MARKER BOARDS AND TACK BOARDS

Provide marker boards and tack boards.

C103004 IDENTIFYING DEVICES

All necessary interior signage shall be incorporated as part of the architectural drawings. Interior signage is not collateral equipment. Interior signage shall demonstrate complete coordination with the facility design, SID and FF&E submittals. Provide interior directional signage as required for facility way finding. Provide an identifying device at each interior door. Signs must meet ADA requirements.

C103005 LOCKERS

Provide lockers. Lockers shall be metal construction and enamel finish.

C103007 FIRE EXTINGUISHER CABINETS

Provide fire extinguisher cabinets. Cabinet shall be semi-recessed in new construction and surface-mounted in new mechanical/electrical spaces and existing wall construction. Cabinets shall be coordinated with interior finishes.

C103008 COUNTERS

Provide solid plastic acrylic counter tops and back splashes.

C103009 CABINETS

Provide cabinetry and millwork items with associated accessories. Cabinetry shall be AWI custom grade and have concealed hinges with adjustable standards for shelves. All exposed surfaces will be covered with high pressure plastic laminate clad.

Provide specific cabinetry as shown on the Room Requirements Sheets.

C103012 FIRESTOPPING PENETRATIONS

Provide all sleeves, caulking, and flashing for firestopping penetrations.

C103014 ENTRANCE FLOOR GRILLES AND MATS

Provide recessed pan floor mats at each entrance to the Administration Building.

C103090 OTHER INTERIOR SPECIALTIES

Provide above ceiling mounted motorized projection screen as approved by client.

Provide ceiling mounted projector support as approved by client.

Provide pull down or manual projection screens shall be provided in lieu of motorized projection screens as approved by client.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

C20 STAIRS

SYSTEM DESCRIPTION

Stairs, including stair construction and stair finishes, shall be provided as required by the building code to provide egress from the building from above or below grade level floors. Stairs shall be in accordance with UFC 1-200-01, *General Building Requirements*.

GENERAL SYSTEMS REQUIREMENTS

C2010 STAIR CONSTRUCTION

C201001 INTERIOR AND EXTERIOR STAIRS

Exterior stairs shall be constructed of galvanized steel.

Treads and landings shall be galvanized gratings, typical.

Steel stairs shall be primed and painted.

C201002 FIRE ESCAPE STAIRS

C201090 HANDRAILS, GUARDRAILS, AND ACCESSORIES

Handrails and guardrails shall be galvanized steel. Handrails and guardrails shall present a smooth, unbroken surface throughout the length of the stair.

Handrails and guardrails shall be finished to withstand extreme wear conditions.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

C30 INTERIOR FINISHES

SYSTEM DESCRIPTION

Interior finishes include wall finishes, floor finishes, wall base finishes, and ceiling finishes.

Provide aesthetically pleasing, functional, durable finishes appropriate to the buildings function. Acoustic properties of materials, as well as durability and ease of maintenance, shall be considered during material selection. Maximize the use of sustainable materials.

GENERAL SYSTEMS REQUIREMENTS

See "Room Requirements" for specific requirements on "Interior Finishes."

C30 SSPC QP 1 CERTIFICATION

C3010 WALL FINISHES

Interior wall finish materials shall be concrete masonry, typical.

All interior wall finishes shall be as indicated in the "Room Requirements" portion of this RFP.

C3020 FLOOR FINISHES

Primary floor finish shall be linoleum, except porcelain tile shall be provided in toilets and shower areas.

Quartz tile shall be an optional floor finish.

Building entrances and restrooms shall be porcelain or ceramic tile.

Exposed concrete floors shall be coated with a sealer appropriate to the function of the space.

Floor finishes shall be as indicated in the "Room Requirements" portion of this RFP.

C3030 CEILING FINISHES

Primary ceiling finish shall be 610 m x 610 m x 15 mm minimum thickness suspended acoustical panel ceiling system, except provide a suspended gypsum board ceiling in restrooms and showers.

Exposed structural systems shall be painted according to PTS Section C3040 INTERIOR COATINGS AND SPECIAL FINISHES.

Ceiling finishes shall be as indicated in the "Room Requirements" portion of this RFP.

C3040 INTERIOR COATINGS AND SPECIAL FINISHES

Paint all interior exposed surfaces including metal items, such as interior grilles, registers, diffusers, access panels, and panel boxes.

All finish coatings shall be as indicated in the "Room Requirements" portion of this RFP.

--End of Section--

6. ENGINEERING SYSTEM REQUIREMENTS

D20 PLUMBING

Refer to Part 4 Section D20 for performance requirements of the building elements included in the plumbing system.

SYSTEM DESCRIPTION

The plumbing system for the Administration building consists of all fixtures, potable cold and hot water piping and equipment, piping insulation, water heating equipment, sanitary waste and vent piping systems, and other specialty piping and equipment within 5 foot (1.5 meter) of the building. Refer to Building Requirements, Space Tabulations Section of the Project Program for building occupancy levels.

GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide concrete pads under all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of PTS section D20 and the manufacturer's recommendations. Design and installation shall be in accordance with IPC and UFC 3-420-01, *Plumbing Systems*. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

D2010 PLUMBING FIXTURES

Provide quantity and type of plumbing fixtures required for the occupancy, use, and functions described for this facility. Refer to Room Requirements Section for additional specific requirements for spaces with plumbing fixtures. Provide handicapped fixtures in accordance with the referenced criteria in the Project Program.

D201001 Water Closets

Provide floor mounted flush valve dual function flush valve water closets with electronic flush control in all restroom spaces.

Provide handicapped flush valve type water closets in restroom spaces.

D201002 Urinals

Refer to Room Requirement Section for the number and type of urinals required. Provide flush valve type urinals with electronic flush control in all public restroom spaces. Urinals shall be low flow with a maximum water consumption of 0.5 gallons per flush.

Provide handicapped flush valve type urinals in all public restroom spaces.

D201003 Lavatories

Refer to Room Requirement Section for the number and type of lavatories required.

Provide wall mounted lavatories made of vitreous china, with straight back and electronic control. Provide grid drain.

D201004 Sinks

Refer to Room Requirement Section for the number and type of sinks required.

Provide service sink in the janitor space.

D201005 Showers

Provide a single lever pressure balanced shower valve and floor drain in each shower stall.

D201006 Drinking Fountains and Coolers

Provide water coolers in the Hallway space.

D201090 Emergency Fixtures

Add emergency eye wash shower on each side of CQC Trainer Building use tepid water 80 degrees F to 85 degrees F.

D2020 DOMESTIC WATER DISTRIBUTION

Perform a flow test to determine system requirements.

D202001 Pipes and Fittings

Provide Copper tubing and fittings for above ground and buried piping.

D202002 Valves & Hydrants

Provide isolation valves at supply to each floor. Provide hose bibbs in mechanical rooms .Provide frost proof hose bibbs along the building exterior such that all points along the perimeter can be reached with a 100 foot (30 meter) long hose.

D202003 DOMESTIC WATER EQUIPMENT

Provide backflow preventers of types and at points within domestic water systems as specified by IPC. Locate inside the mechanical room on service entrance lines where not provided exterior to the building.

Provide water meter with remote reader mounted outside the mechanical room.

Provide electric water heater for heating of domestic water.

D202004 Insulation & Identification

Provide mineral fiber insulation with vapor barrier on domestic hot water supply and recirculation piping. Provide polyisocyanurate insulation with vapor barrier on domestic cold water supply piping. Provide identification for piping and equipment.

D202005 Specialties

Provide valve box for buried valves.

D202090 Other Domestic Water Supply

Provide piping supports in accordance with the IPC. Provide inspections, disinfection, and testing in accordance with the IPC.

D2030 SANITARY WASTE

D203001 Waste Pipe & Fittings

Provide cast iron hubless pipe and fittings with rubber compression gasket joints for above ground installation.

Provide plastic PVC or ABS piping, fittings, and solvent cement for belowground installation.

D203002 Vent Pipe & Fittings

Provide cast iron hubless pipe and fittings with rubber compression gasket joints.

D203003 Floor Drains

Provide in mechanical rooms, restrooms, and to receive condensate from air handling equipment.

D203004 Sanitary & Vent Equipment

Not used.

D2040 RAIN WATER DRAINAGE

D204001 Pipe & Fittings

Not used.

D204002 Roof Drains

Not used.

D204004 Insulation & Identification

Not used.

D204090 Other Rain water Drainage System

Not Used.

D2090 OTHER PLUMBING SYSTEMS

D209001 Special Piping Systems

Not used.

D209002 Acid Waste Systems

Not used.

D209003 Interceptors

Not used.

D209005 Compressed Air System (non-breathing)

Not used.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

D30 HVAC

Refer to Part 4 Section D30 for performance requirements of the building elements included in the HVAC system.

SYSTEM DESCRIPTION

Provide a heating, ventilating and air conditioning (HVAC) system for the Administration building that attains the following objectives: Occupant comfort, Indoor air quality, Acceptable noise levels, Energy efficiency, Reliable operation, and Ease of maintenance. Design and installation shall be in accordance with IMC and UFC 3-400-10N, *Mechanical Engineering*. Refer to Building Requirements, Space Tabulations Section of the Project Program for building occupancy levels.

Provide a one-pass (100% OA) ventilation system for the small arms range (CQC) trainer building. The system shall have vertical downflow such that a uniform flow distribution is maintained across the breathing zone of 4 to 6 feet above the floor. The air shall not be heated. Outside air shall be filtered with 35% filters. Air shall be exhausted through floor registers. Refer to Section F-10 Special Construction.

GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria in PTS Section D30 and the manufacturer's recommendations. Where the word "should" is used in manufacturer's instructions, substitute the word "shall".

Provide air conditioning and heating for spaces in the Administration building as indicated and for the following Design conditions:

Outside Conditions					
Summer	91.4	Degrees F dry bulb	Winter	26.6	Degrees F
	33	Degrees C dry bulb		-3	Degrees C
	76.6	Degrees F wet bulb			
	24.8	Degrees C wet bulb			

Inside Conditions – Administration Building					
Summer	75	Degrees F dry bulb	Winter	68	Degrees F
	23.8	Degrees C dry bulb		20	Degrees C
	50	%RH			

Provide Ventilation rates and systems for the Administration building per the latest edition of ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*.

The HVAC system shall provide each zone with the choice of heating or cooling year round unless otherwise indicated.

Zone the HVAC system as follows:

Each briefing room shall be a separate zone.

The office spaces shall be a separate zone.

All mechanical and electrical spaces shall be heated and ventilated only.

Provide minimum 4-inch (100 mm) thick concrete housekeeping pads and vibration isolators under all floor-mounted equipment.

All mechanical equipment shall have factory painted finishes that pass a salt-spray test conducted per ASTM B117 for duration of at least 500 hours.

All outside HVAC equipment and coils shall be provided with a manufacturer approved coating system. The heat transfer rating shall be as installed. Field applied coatings are not allowed.

D3010 ENERGY SUPPLY

D301002 GAS SUPPLY SYSTEM

Not used.

D301003 STEAM SUPPLY SYSTEM (FROM CENTRAL PLANT)

Not used.

D301004 HOT WATER SUPPLY SYSTEM (FROM CENTRAL PLANT)

Not used.

D3020 HEAT GENERATING SYSTEMS

D302001 BOILERS

Not used.

D302002 FURNACES

Not used.

D302003 FUEL-FIRED UNIT HEATERS

Not used.

D302004 AUXILIARY EQUIPMENT

Not used.

D302005 EQUIPMENT THERMAL INSULATION

Not used.

D3030 COOLING GENERATING SYSTEMS

D303001 CHILLED WATER SYSTEMS

Not used.

D303002 DIRECT EXPANSION SYSTEMS

Provide vertical heat pump units with ducted air distribution and controls to serve the heating and cooling requirements of the facility. Heat pumps may be air to air, water source or ground coupled as required to maintain efficiency compliant with the Energy Policy Act of 2005. One vertical heat pump unit shall be provided for each zone and shall be located within a mechanical room. The mechanical room shall be lockable and allow adequate space for maintenance. Provide each heat pump with a return filter grille to ease maintenance. If space does not allow for a vertical heat pump unit, provide horizontal heat pump units in the overhead with a means for removal and maintenance of the system through lockable access panels. Install flexible stainless steel piping connections (hose kits) between water source heat pumps and piping. Install vibration isolators on heat pumps. Provide heat pumps with supplemental electric heaters.

D3040 DISTRIBUTION SYSTEMS

D304001 AIR DISTRIBUTION, HEATING & COOLING

Provide insulated, galvanized steel ductwork constructed, braced, reinforced, installed, supported, and sealed per the IMC and SMACNA standards. Ductwork shall not be insulated for CQC trainer.

Provide grilles, registers, and diffusers. Provide filter grilles for return air in Administration building.

D304002 STEAM DISTRIBUTION SYSTEMS

Not used.

D304003 HOT WATER DISTRIBUTION SYSTEMS

Not used.

D304004 CHANGEOVER DISTRIBUTION SYSTEMS

Not used.

D304005 GLYCOL DISTRIBUTION SYSTEMS

Not used.

D304006 CHILLED WATER DISTRIBUTION SYSTEMS

Not Used.

D304007 EXHAUST SYSTEMS

Provide ductwork constructed, braced, reinforced, installed, supported, and sealed per the IMC and SMACNA standards. Provide ducted exhaust ventilation systems and exhaust fans to serve all ventilated zones of the facilities. Provide in-line centrifugal exhaust fan(s) for the Administration building.

D304008 AIR HANDLING UNITS

Provide constant volume air handlers with centrifugal fans using non overloading blades. Provide with 35% filters.

D304090 OTHER DISTRIBUTION SYSTEMS

Not used.

D3050 TERMINAL & PACKAGE UNITS

D305002 UNIT HEATERS

Mechanical & Electrical rooms shall have electric unit heaters.

D305003 FAN COIL UNITS

Not used.

D305004 [FIN TUBE RADIATORS] [CONVECTORS]

Not used.

D305005 ELECTRIC HEATING

Not used.

D305006 PACKAGE UNITS

Not used.

D3060 CONTROLS AND INSTRUMENTATION

D306001 HVAC CONTROLS

D306001-1.1 DIRECT DIGITAL CONTROLS (DDC)

Not required for Administration building.

D306002 ELECTRONIC CONTROLS

Provide programmable electronic controls for the HVAC systems and equipment. Provide sufficient contactors to allow monitoring by base-wide energy management control system.

D3070 SYSTEMS TESTING AND BALANCING

Provide complete Testing and Balancing (TAB) of all air and water distribution systems and HVAC equipment. D307001 WATER SIDE TESTING & BALANCING – HEATING & COOLING Refer to paragraph D3070.

D307002 AIR SIDE TESTING & BALANCING – HEATING, COOLING & EXHAUST

Refer to paragraph D3070.

D307003 HVAC COMMISSIONING

Refer to Project Program section 2.3.3 for Building Commissioning requirements. Mechanical systems to be commissioned, if provided, include HVAC systems and controls, , and domestic hot water systems.

D3090 OTHER HVAC SYSTEMS AND EQUIPMENT

D309001 GENERAL CONSTRUCTION ITEMS

Provide seismic restraints and Comply with the Force Protection Criteria.

D309090 OTHER SPECIAL MECHANICAL SYSTEMS

-- End of Section --

6. ENGINEERING SYSTEMS REQUIREMENTS

D40 FIRE PROTECTION

Refer to Part 4 Section D40 for performance requirements of the building elements included in the fire protection systems.

SYSTEM DESCRIPTION

Provide an integrated fire alarm and mass notification system and suppression system capable of notifying building occupants and controlling any fire that may start inside the CQC Trainer facility. No fire suppression systems are required for the administration building, however fire detection shall be provided in this space.

See Section F10 for additional requirements.

GENERAL SYSTEM REQUIREMENTS

Provide working space around all equipment. Provide concrete pads under all equipment. Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of PTS section D40 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

All Design Documents, (i.e. Building Code/Life Safety Analysis, plans, specifications, and calculations) developed for Section D40 shall be prepared by, or under the supervision of the design/build contractor's Qualified Fire Protection Engineer, the Fire Protection Designer of Record (FPDOR).

Installation drawings, shop drawings or working plans, calculations, other required pre-construction documentation and as-built drawings shall be prepared by, or under the direct supervision of a NICET

engineering technician as specified below. NICET engineering technicians shall hold a current certification as an engineering technician in the field of Fire Protection Engineering Technology with minimum Level III certification in the appropriate subfield.

Provide training for the active systems consisting of two (2) eight (8)-hour sessions to accommodate both shifts of the base fire department and allow for rescheduling for unforeseen fire department responses.

D4010 FIRE ALARM AND DETECTION SYSTEMS

Provide an integrated fire alarm, and mass notification systems capable of notifying building occupants inside the training facility. Locate the FACP in the Administration Building and provide detection for the admin. building from the FACP. Provide a complete, electrically supervised, addressable intelligent, manual and automatic, annunciated fire alarm and detection system throughout the facility. The system shall be a voice evacuation type system and shall also serve as a mass notification system. These integrated systems shall be capable of notifying building occupants by means of tones, strobes, textural messaging, prerecorded and live voice announcements. The fire reporting portion of the system shall be compatible with the existing base fire reporting system. The fire alarm system shall include manual stations, , heat detectors, audio/visual alarms, fire alarm radio transmitter, electrical supervision of all sprinkler system alarm and supervisory devices, and electrical supervision of fire pump controllers. Do not provide any smoke detection inside the training facility as simulated smoke is used in CQC Trainer exercises. Smoke detection may be provided in the administration building.

The fire alarm control panel shall be capable of handling a minimum of 500 individually identified sensors within the main control panel. Provide Class Notification Appliance Circuits, Class A Signaling Line Circuits, and Class B Initiation Device Circuits.

Manual pull stations shall be semi-flush.

D4020 FIRE SUPPRESSION WATER SUPPLY AND EQUIPMENT

Base hydraulic calculations on a static pressure of 49 psig (gauge) (337.8 kPa) with 18 gpm (2,718 L/m) available at a residual pressure of 30 psig (gauge) (206.8 kPa) at the junction with the water distribution piping system.

The incoming sprinkler service shall be provided with a double check backflow preventer.

Provide horizontal split-case centrifugal electric driven fire pump. The minimum rated capacity shall be 500 gpm (1,900 Lpm).

D4030 STANDPIPE SYSTEMS

Not used.

D4040 SPRINKLER SYSTEMS

Provide single interlock preaction automatic sprinkler protection with supervisory air to provide complete coverage throughout the CQC Trainer. Activation of the heat detection system shall release the preaction valve. For all areas the sprinkler rate of application shall be 0.20gpm/ft² (8.2 L/min/m²), over an area of 2,000 ft² (186 m²) with hose stream allowance of 500 gpm (1,900 L/min).

Provide quick-response sprinklers with high temperature rating in all areas of the CQC Trainer.

D4090 OTHER FIRE PROTECTION SYSTEMS

Not used.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

D50 ELECTRICAL

SYSTEM DESCRIPTION

Provide an interior electrical system consisting of Service Entrance Wiring and Equipment, Distribution and Lighting Panelboards, Dry Type Transformers, Conduits, Feeder and Branch Circuits, Motor Control Equipment, Lighting and Branch Wiring, Communications Systems, Emergency Lighting and Power, Grounding, including accessories and devices as necessary and required for a complete and usable system. This section covers installations out to the building 5 foot (1.5 meter) line.

The interior distribution system shall consist of insulated conductors in conduit.

GENERAL SYSTEM REQUIREMENTS

Provide an Electrical System complete in place, tested and approved, as specified throughout this RFP, as needed for a complete, usable and proper installation. All equipment shall be installed per the criteria of PTS Section D50 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

D5010 ELECTRICAL SERVICE AND DISTRIBUTION

D501001 MAIN TRANSFORMERS

Main transformer(s) are defined in Section G40, *Site Electrical Utilities*.

D501002 SERVICE ENTRANCE EQUIPMENT

All service into the facility shall be underground.

Provide a main distribution panel as service equipment.

D501003 INTERIOR DISTRIBUTION TRANSFORMERS

Provide dry type transformers to step down secondary voltages for general purpose outlets and other low voltage equipment.

D501004 PANELBOARDS

Provide distribution and branch circuit panelboards to serve loads as required.

D501005 ENCLOSED CIRCUIT BREAKERS

Not used.

D501006 MOTOR CONTROL CENTERS

Not Used.

D501090 OTHER SERVICE AND DISTRIBUTION

Provide transient voltage surge suppressors (TVSS) at the following locations service entrance.

D5020 LIGHTING AND BRANCH WIRING

Provide electrical connections for all systems requiring electrical service.

Provide lighting and general purpose receptacles throughout all spaces as required. Receptacles will not be required in the CQC Trainer.

Will be required above each room mounted in the lighting fixture grid.

In each training spaces within the CQC Trainer, provide one general purpose receptacle mounted to the catwalk structure for maintenance with the trainer space.

D502001 BRANCH WIRING

All branch wiring shall be insulated conductors in conduit.

D502002 LIGHTING EQUIPMENT

Provide a complete lighting system consisting of exit and emergency lighting and area lighting consisting of fluorescent incandescent lighting including switches and automatic controls including occupancy sensors dimming systems.

The CQC Trainer consisting of four (4) zones shall have a pendant mounted lighting grid with incandescent fixture mounted to the grid. Each room within each zone shall have dimmerable controls for a master lighting level in each room be 0-30 footcandles.

D5030 COMMUNICATIONS AND SECURITY

The Room Requirements Section identifies locations for communications and security systems and equipment, unless noted otherwise in the following sub-elements.

D503001 TELECOMMUNICATIONS SYSTEMS

Provide a complete building entrance facility, backbone distribution system, and horizontal distribution system including, but not necessarily limited to, all wiring, pathway systems, grounding, backboards,

connector blocks, protectors for all copper service entrance pairs, patch panels, fiber optic distribution panels, terminators for all fiber optic cables, outlet boxes, telephone jacks, data jacks and cover plates.

Provide Category 6 Unshielded Twisted Pair (UTP) copper cable for horizontal voice and data cables.

D503002 PUBLIC ADDRESS SYSTEMS

Provide a Public Address system with speakers in all common spaces exterior speakers for outside activity spaces.

D503003 INTERCOMMUNICATIONS SYSTEMS

Provide an Intercommunication System to allow two-way communications between all office spaces, and CQC Trainer.

D503004 TELEVISION SYSTEMS

Provide a CATV system consisting of empty raceways and outlet boxes to enable system installation by the commercial CATV supplier.

D503005 SECURITY SYSTEMS

An Electronic Security System (ESS) is the integrated electronic system that encompasses one or more of the following subsystems; access control system (ACS), intrusion detection system (IDS).

Provide an electronic security system (ESS) including equipment and supporting infrastructure complete, tested, and operational. ESS shall be compatible with the Installation's central monitoring system and monitored within the protected zone/area and at the Installation central monitoring station.

Provide NIPnet and SIPRnet outlets, conduits and wiring needed to connect outlets to Base point of connection.

Provide a 4" empty conduit run for SIPRNet from Administration Building SIPRNet Room to a 1m x 1m x 1m concrete handhole located outside the building.

Provide a dedicated 1x x 1m x1m concrete handhole for SIPRNet and located on site. Final location will be as directed per Activity.

Provide 2-4" empty conduit runs from Administration Building Communication Room to CQC Building Communication Room for future upgrades.

Provide design for all IDS, motion detectors, video cameras & monitoring, telephone connections to the regional monitoring station, door badge swipe/PIN entrance hardware. Provide all necessary conduit and wiring equipment is government furnished, Contractor installed.

D503090 OTHER COMMUNICATIONS AND ALARM SYSTEMS

At each access point to the catwalk level, provide a lighting control panel that controls the lighting in each zone. Allow each control panel to control all of the lighting in the entire facility.

At each access point to the catwalk level, provide a magnetic locking system that will permit the ability to lock or unlock each door over the particular zone that the door is located in.

D5090 OTHER ELECTRICAL SERVICES

D509001 GENERAL CONSTRUCTION ITEMS (ELECTRICAL)

Provide General Construction Items (Electrical) including, but not necessarily limited to, all connections, fittings, boxes and associated equipment needed by this and other sections of this RFP as required for a complete and usable system.

Conduits, cable trays and fixture grid that penetrate fire-rated walls, fire-rated partitions, or fire-rated floors shall be firestopped in accordance with Section C10, *Interior Construction*.

D509002 EMERGENCY LIGHTING AND POWER

Provide power and wiring for emergency lights and exit lights throughout the facility.

D509003 GROUNDING SYSTEMS

Provide a complete grounding system for the facility electrical and telecommunications systems.

D509004 LIGHTNING PROTECTION

Not used. D509005 ELECTRIC HEATING

Not used

D509006 ENERGY MANAGEMENT CONTROL SYSTEM

Provide power wiring and connections as required for all systems and equipment including DDS.

D509090 OTHER SPECIAL SYSTEMS AND DEVICES

Not used.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

E10 EQUIPMENT

GENERAL SYSTEMS REQUIREMENTS

E1010 COMMERCIAL EQUIPMENT

The contractor shall obtain the services of equipment specialists to specify audiovisual equipment. Equipment specialists shall not have any affiliation with the product specified.

All specialty equipment will be installed by qualified installers regularly engaged in installing the specialty equipment.

E1040 GOVERNMENT FURNISHED EQUIPMENT

Rough-in and provide connections for Government-furnished weapons vault such that equipment will operate as intended, including providing miscellaneous items such as plugs, receptacles, wire, cable, conduit, flexible conduit and outlet boxes or fittings.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

E20 FURNISHINGS

SYSTEM DESCRIPTION

Furnishings shall include fixed furnishings as part of the Structural Interior Design (SID) and funded as part of the construction contract and movable furnishings as part of the Furniture, Fixtures and Equipment (FF&E) funded separately as part of Collateral Equipment.

The movable furniture and furnishings (FF&E) for this facility include, but are not limited to standard room furnishings, freestanding furniture, appliances, accessories and other miscellaneous items to support facility functions.

FF&E (Furniture, Fixtures and Equipment) shall also include shop equipment and audiovisual equipment. Audio Visual Equipment includes: projection equipment, sound equipment, etc.

Fixed furnishings such as built-in counters or cabinetry, specialty equipment (drying cages, weapon racks and lockers), security camera, motorized projection screens, and window covering are part of the SID and funded, purchased and installed as part of the construction contract.

GENERAL SYSTEMS REQUIREMENTS

Design and provide fixed and movable furnishings for all areas as developed during client programming and as indicated in the Room Requirements matrix if provided. Design a complete FF&E package and prepare supporting plans and procurement data. The contractor shall have an Interior Designer, certified by the National Council for Interior Design Qualification (NCIDQ) prepare both the SID and the FF&E Package and participate in any design charrettes to develop the building floor plan. As required, the contractor shall obtain services of equipment

specialists to specify the audiovisual, shop or specialty equipment. The Interior Designer and any Specialists shall not have any affiliation with the products specified. The NAVFAC Interior Designer reserves the right to approve/disapprove the qualifications of the Contractor's Interior Designer.

All fixed and movable furnishings selections shall be closely coordinated with Sections C10, *Interior Construction*, and C30, *Interior Finishes*. The FF&E package shall be fully integrated with the building systems and finishes.

The contractor shall be responsible for specifying all FF&E, delivery, and installation for the facilities built under this contract as directed by the NAVFAC Interior Designer using NAVSUP Blanket Purchase Agreements (BPA's), GSA schedules, and other Federal contracts and complying with priorities found in FAR Part 8.404. A list of current BPA contract holders is located in Part 6 of this RFP.

The FF&E package shall be fully integrated into the design and construction schedule for the building.

The Budget for the FF&E shall be \$2,000,000

INTERIOR DESIGN SUBMITTAL AND MEETING REQUIREMENTS

STRUCTURAL INTERIOR DESIGN (SID) SUBMITTAL

The SID submittal process shall begin following the award of the RFP. The SID submittal shall include Interior Design programming documents and exterior & interior finish/color and material sample boards.

1. Prior to the preliminary building design, per Z10 *General Performance Technical Specification* and section 01 33 10.05 20 *Design Submittal Procedures*, the contractor's Interior Designer shall meet with the client to further develop the Interior Design FF&E programming documents. Programming documents

include a Collateral Equipment List and Furniture Footprint Plan. Minutes of this meeting shall be submitted to the NAVFAC Interior Designer within 7 days.

2. At pre-final building design, per Z10 *General Performance Technical Specification* and section 01 33 10.05 20 *Design Submittal Procedures*, provide Interior Design programming documents in a 3-ring standard binder. Provide exterior and interior building finishes/color/material sample boards. Three (3) sets will be required; one each to the Project Manager, FEAD/ROICC and Client for Government review and approval.
3. At final building design, per Z10 *General Performance Technical Specification* and section 01 33 10.05 20 *Design Submittal Procedures*, provide approved exterior and interior building finishes/color/material binders for Government review and final approval. Three (3) sets will be required; (1) each to the Project Manager, FEAD/ROICC, and Client.

SID CONSTRUCTION SUBMITTALS

No changes shall be made to the SID furnishings that are submitted and approved by the Government during the design phase. In the event that revisions may be required because of unforeseen conditions such as discontinued product, the revisions must be submitted to the Contracting Officer for approval by the NAVFAC Interior Designer before substitutions can be made.

FIXTURES, FURNISHINGS AND EQUIPMENT (FF&E) SUBMITTAL

The FF&E submittal process shall follow the 100% building design approval. The submittal shall include furniture, furnishings, artwork, and equipment. The submittal shall be in the format provided by the NAVFAC Interior Designer. Develop design as described and in accordance with the client's requirements. Include in the design all loose furnishings required to produce an optimum functional facility, consistent with quality commercial design. This project also includes the preparation of specific detailed information for each selected item. Each submittal shall demonstrate interaction thoroughly with the client requirements and complete coordination with the facility

design and the SID. Three (3) submittals will be required; (1) each for the IPT, FEAD/ROICC, and the Client.

1. Within 7 calendar days following the notice to proceed with construction, the contractor's Interior Designer shall meet with the NAVFAC Interior Designer for a FF&E Requirements meeting. At this time, the NAVFAC Interior Designer will discuss in detail with the Contractor's Interior Designer the sample format of the FF&E submittal and discuss Blanket Purchase Orders (BPAs), GSA sources and other mandatory sources, see Part 6 for sample formats and source information.
2. Within 21 days following the FF&E Requirements meeting, the contractor's Interior Designer shall meet with the NAVFAC Interior Designer for an over-the-shoulder review to present furniture, furnishings and finish options for preliminary approval prior to client presentation.
3. The Preliminary FF&E submittal shall be due 45 calendar days following the notice to proceed with construction. It shall be presented to the client and NAVFAC Interior Designer. Submit the following in a 3-ring binder (with the exception of the 16x20 color boards) for both client and NAVFAC Interior Designer review and approval:
 - a. FF&E list (Cost Summary)
 - b. Furniture placement plans coded to the FF& list and furnishings specifications
 - c. Specifications for furniture, furnishings, etc.
 - d. Images of furniture for all specified items
 - e. Samples of finishes specified for client presentation to indicate overall design intent
 - f. 8x10 color photographs of the color boards
4. The Final FF&E submittal shall be due 30 calendar days following the receipt of review comments on the preliminary FF&E submittal. It shall be presented to the client and NAVFAC Interior Designer. The Government review period will be a maximum of 30 calendar days. The Final submittal shall

incorporate the same items listed at the Preliminary submittal, except that it shall incorporate any review comments.

The Contractor's Interior Designer shall submit the Best Value Determination Worksheets as a separate addendum accompanying the final FF&E submittal.

These are minimum requirements and the Contractor shall be prepared to provide any/all additional meetings and submittals that may be necessary to support the Interior Design effort/FF&E coordination.

FF&E CONSTRUCTION SUBMITTALS

Submit any revisions or deviations caused by discontinued items to the Contracting Officer for approval by the NAVFAC Interior Designer.

E2010 FIXED FURNISHINGS (SID)

Fixed furnishings (SID) are funded as part of the construction project and are not funded as part of Collateral Equipment.

Develop design as described herein and provide built-in cabinetry, specialty and custom casework, and specialty storage casework such as reception counters, food prep counters, fixed storage cabinets, fixed storage shelving, equipment racks, display cases, kitchen cabinets and other required casework and window treatments. Cross reference C10, *Interior Construction*, and C30, *Interior Finishes*, for performance requirements. Each submittal must demonstrate complete coordination with the facility design and with the package for movable furnishings.

E201002 WINDOW TREATMENTS

All windows and other glazed openings to the exterior of the building shall be provided with Venetian blinds and are considered SID and are funded as part of the construction project.

Soft window treatments, such as draperies, are considered Collateral Equipment and shall be included in the FF&E package, as required.

E201003 FIXED SEATING AND TABLES

As required, but not limited to, provide fixed locker room benches, fixed tables and chairs, auditorium fixed seating, dining booths and site furniture.

Provide locker room benches. Lockers are not collateral equipment.

E201004 Audiovisual Display Requirements

Provide dry erase markerboards in Briefing rooms.

E201005 Built-in Cabinetry

Provide counter tops and cabinets per Room Requirements.

E2020 MOVABLE FURNISHINGS

The design of the FF&E package is funded as part of the construction contract. The purchase and installation coordination of FF&E is an option to the contract and funded separately as part of Collateral Equipment. The specific process is outlined in PTS E20 in Part 4 of this RFP.

Design and provide a FF&E package in accordance with UFC 3-120-10, *Interior Design*, and other portions of this RFP for all areas as developed during client programming to provide a fully usable and complete facility. FF&E may also include specialty items for which the client activity shall be responsible for specifying. The contractor would be responsible for incorporating the client specifications into the FF&E package.

The FF&E Package must include shipping, freight, handling, and professional installation.

A Best Value Determination shall be performed as follows:

FF&E procurements of \$3,000 or less: For any procurement in the FF&E package with a value of \$3,000 or less, the interior designer may utilize any BPA holders. If the BPA holders cannot supply the item(s), then any other manufacturer may be utilized.

FF&E procurements greater than \$3,000 and \$100,000 or less: For any procurement in the FF&E package with a value greater than \$3,000 and \$100,000 or less, the contractor's interior designer shall always review pricing from at least three manufacturers and solicit UNICOR. UNICOR (Federal Prison Industries) must always be solicited, which is done by sending an email with the requirements and evaluation criteria. Refer to Attachment for F for specific information for contacting UNICOR. In addition to the review of published list prices, the contractor's interior designer must obtain written pricing from the vendor. In the selection process, other reasonably available information about the supply or service offered, such as delivery term, should also be considered. The prime contractor's proposal for FF&E shall provide the Contracting Officer with the proper documentation to determine that the FF&E requirements are procured using competitive means, where applicable. Should the required number of sources not be available for any of the systems or components, the contractor is required to provide written documentation or rationale. In addition, the proposal must clearly document the best value determination justification for the recommended supplier/vendor. Attachment G is a template document for the proposal submission and best value determination justification for procurements greater than \$3,000 and less than \$100,000.

FF&E procurements greater than \$100,000: In accordance with DFARS PGI 208-405-70, for each procurement with a value greater than \$100,000, the contractor's interior designer shall solicit proposals from all of the BPA holders under the applicable group. UNICOR (Federal Prison Industries) must always be solicited, which is done by sending an email with the requirements and evaluation criteria. Refer to Attachment F for specific information for contacting UNICOR. When soliciting the BPA holders, the BPA holders should be forwarded the statement of work and the selection criteria. The contractor's interior designer is required to receive actual quotes from vendors. The prime contractor's proposal for FF&E shall provide the Contracting Officer with the proper documentation to determine that the FF&E requirements are procured

using competitive means, where applicable. In addition, the proposal must clearly document the best value determination justification for the recommended supplier/vendor. Attachment H is a template document for the proposal submission and best value determination justification for procurements greater than \$100,000.

As indicated in Part 6 of this RFP on Attachments G and H, the prime contractor's proposal for each FF&E procurement shall include the following:

1. Description of item(s), system(s) or component(s) being procured.
2. Verification that UNICOR was provided an opportunity to be considered as a provider.
3. List the names of the suppliers/vendors who were contacted for quotes. Identify the appropriate Navy BPA number, Federal Supply Schedule, etc., as appropriate. Where all Navy BPA holders under a particular schedule were contacted, indicate "All BPA holders under the Federal Supply Schedules.
5. Copy of all pricing for the system or component.
6. Recommended source with price, including any applicable discounts given by the supplier/vendor.
7. Identify criteria used to recommend a source.
8. Best Value Determination narrative justification when recommending a source based on other than lowest price.
9. Signature of prime contractor's interior designer on Submitting Official Line.

In addition to price, when determining best value, the recommendation selection criteria rationale may be, among other factors, the following:

- Past performance
- Special features of the supply or service required for effective program performance
- Trade-in considerations
- Probable life of the item selected as compared with that of a comparable item
- Warranty considerations
- Maintenance availability
- Environmental and energy efficiency considerations
- Comfort/suitability of the system and/or component
- Compatibility with existing furniture and/or products
- Product performance
- Delivery terms
- The specific criteria that will be used for each procurement shall be identified to the suppliers/vendors during the quotation process.

Contacting UNICOR

All Micro Purchasing research and purchasing, less than \$3,000, can be done on the UNICOR website www.unicor.gov. Products at this level can be viewed on the 30 day catalog. Customer Service can also be reached

at 800-827-3168. Market research can also be done on the website for procurements under \$10,000.

For orders greater than \$10,000, for Market Research and/or issuance of Requests for Quotes, contact the UNICOR Regional Sales Manager listed below. Please note that the "State" indicated is based on the "ship to" address:

Diane Stabinski (diane.stabinski@oei-inc.com): If Ship to address is: DE, IL, 1D, DC, VA, WV, TN, NC, SC, GA, AL, MS, GA, FL, PR, VI

Katherine Allen (katherine.allen@oei-inc.com) : If Ship to address is: LA, AR, KS, AZ, NM, CO, TX, UT, WY, OK

David Sharapata (david.sharapata@oei-inc.com) : If Ship to address is: CA, OR, NV, HI, WA, ID, MT, AK, ND, SD, NE, MN, IA, MO, IL, WI, IN, MI, OH, KY, ME, MA, VT, NH, CT, RI, NY, PA, NJ

Inquiries will be forwarded to the local sales rep in the territory for response.

The Government reserves the right to award to the Contractor, a FF&E line item modification; The Contractor shall be authorized by the Government Contracting Officer to procure all furniture/furnishings in the approved final FF&E package using predominately negotiated Federal contracts as directed by the Contracting Officer and the NAVFAC Interior Designer. If the option for turnkey furniture procurement is exercised, the Contractor's proposed Handling and Administrative Rate (HAR) shall not exceed 5% of the total cost of the FF&E, shipping, freight, handling, and installation. The HAR includes all of the prime contractor's effort related to the storage, coordination, handling and administration of subcontractors, and all other associated costs and profit for the procurement of FF&E. No other charges, fees, or markups will be authorized. The contractor shall establish and submit a fixed percentage figure, for the administration effort of this modification (HAR), with the initial project proposal.

The Contractor will be acting as a Government agent, purchasing under Federal contracts and shall not be charged or assessed Federal or State taxes. The Contractor shall provide tax exemption certificate/or complete and submit the appropriate State forms from the Department of Tax Revenue.

E202002 MODULAR PREFABRICATED FURNITURE

Provide Workstation systems product or modular freestanding workstations as required. Provide at a minimum, an articulating keyboard tray with left or right handed mouse extension for each computer location.

E202003 FREESTANDING FURNITURE and files

Provide ergonomic task seating, lounge, reception and guest seating, storage and filing, tables, as required.

E202090 other movable furnishings

Provide waste receptacles, recycling containers, fire extinguishers, clocks, literature racks, stacking washers, stacking dryers, microwaves, refrigerators, and other appliances as required.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

F10 SPECIAL CONSTRUCTION

SYSTEM DESCRIPTION

Special Construction shall include the ballistic components and special construction features of the CQC Trainer. Included are the bullet resistant components, the ventilation system, and other specialty items.

GENERAL SYSTEMS REQUIREMENTS

F1010 SPECIAL STRUCTURES

F101001 METAL BUILDING SYSTEMS (PRE-ENGINEERED)

Provide the building foundation and other systems in accordance with UFC 3-300-10N, *Structural Engineering*.

A pre-engineered metal building may be provided for the CQC trainer. The building shall be provided to enclose the trainer. Walls and roof construction shall be ballistically protected as described in the RFP.

The metal building shall be sized to enclose the layout provided in Appendix A. The framing system for the steel structure shall be in accordance with AISC M016, except that end frames may be of rigid frame or beam and column design.

In addition, design the structure in accordance with the following loading criteria:

Accommodate any loads imposed by ballistic steel plates or other types of ballistic protection.

F1040 SPECIAL FACILITIES

F104001 CLOSE QUARTERS COMBAT (CQC) TRAINER

Provide a CQC trainer of the sized and requirements indicated on the drawings in appendix A. The CQC Trainer shall have the following features:

Exterior Walls

Exterior walls may be of any type of construction that will provide the bullet resistance described in the RFP. The walls may be concrete, ballistic steel, or other materials that comply with the Fort Story design implementation plan.

Exterior walls shall be composed to meet the following requirements:

Portion of wall up to 8'

Wall shall be comprised of 3/8" minimum AR 500 ballistic steel plate. The partitions shall be assembled in a manner that will prevent any penetration of the assembly from either side, if ballistic steel panel is exposed to the exterior.

The ballistic steel shall be covered with 2 layers of 1/8" conveyor belt rubber sheets. The exterior sheet shall have an integral "white" face. The interior sheet does not have any color requirements. The sheets shall be attached to a frame at the top of the panel with non-treated wood blocking not larger than 1 1/2" x 3 1/2". The frame shall be attached to the ballistic steel plate with bolts that are not larger than 1/4" in diameter. The frame shall be easily replaced by the activity using normal tools. The rubber sheets shall be attached to the frame using heavy duty staples.

Portion of wall between 8' and 12'

Wall shall be comprised of 3/8" minimum AR 500 ballistic steel plate. The wall shall be assembled in a manner that will prevent any projectile penetration of the assembly from either side, if steel panel is the exterior face.

Conveyor rubber is not required on the exterior wall at this zone.

Portion of wall above 12' up to roof

Wall shall provide the equivalent of UL 752, Level 5 protection.

Use of ballistic rubber blocks applied to the ballistic steel panels are not permitted for the wall protection but may be used on the columns or other areas not subject to repeated hits by projectiles.

Walls are not required to be insulated.

Steel panels shall be offset from concrete or masonry walls by the use of furring.

Window openings

Exterior "window" openings shall be ballistically protected by horizontal sliding ballistic steel panels. Panels shall be able to be operated by one person and shall provide a barrier that will prevent any projectiles from leaving the interior. Ballistic panels shall be comprised of 3/8" AR 500 steel. Components subject to ballistic impact shall be constructed of the same material.

Ballistic Doors and frames

All doors and frames enclosing the facility shall be bullet resistant type. Ballistic resistance shall be UL 752 level 8 or as certified by the manufacturer as a product that will be designed for multiple shots of an M-14 with a muzzle velocity of 2750 – 3025 feet per second. Frame shall have the same rating as the door.

In addition, a ballistic containment wall shall be provided outside of the opening. Wall shall be sized and located by the Designer of Record to contain any projectiles that may pass through an open door. Ballistic containment wall may be constructed of concrete or AR500 steel plate.

Roof

The roof shall be designed to provide a bullet resistant protection of UL 752, Level 5. A concrete roof component meeting this requirement shall be normal weight concrete, 4" thick minimum thickness.

INTERIOR

Floor

Provide a concrete floor typical. The floor shall be covered with a resilient interlocking tile. Interlocking shall be a "residential" grade with raised "dot" or square patterns. Tile shall be a "peel and stick" type.

Ballistic partitions (internal)

Partitions shall be comprised of 3/8" minimum AR 500 ballistic steel plate. The partitions shall be assembled in a manner that will prevent any penetration of the assembly from either side.

Interior partitions shall be 8' (2400mm) high except for partition separating Zone F which shall be 12' (3600 mm) high.

Partition separating the live fire areas from the staging and storage areas shall be constructed similar to the exterior wall.

Each side of the partitions shall be covered with 2 layers of 1/8" conveyor belt rubber sheets. The exterior sheet shall have an integral "white" face. The interior sheet does not have any color requirements. The sheets shall be attached to a frame at the top of the panel with non-treated wood blocking not larger than 1 1/2" x 3 1/2". The frame shall be attached to the ballistic steel plate with bolts that are not larger than 1/4" in diameter. The

frame shall be easily replaced by the activity using normal tools. The rubber sheets shall be attached to the frame using heavy duty staples.

Column Protection

All columns located within the interior spaces of the CQC trainer, if any, shall be protected by the means of ballistic steel protection similar to the wall protection. Contractor may provide rubber blocks in lieu of steel panels systems. Protection shall extend to the roof structure.

Ballistic Doors and frames

All doors within the facility shall be bullet resistant type. Ballistic resistance shall be UL 752 level 8 or as certified by the manufacturer a product that will be designed for multiple shots of an M-14 with a muzzle velocity of 2750 – 3025 feet per second. Frame shall have the same rating as the door.

Window openings

Except in Zone F, “window” openings shall be ballistically protected by some by some form of operable panels. Panels shall be able to be operated by one person and shall provide a barrier that will prevent any projectiles from leaving the interior. Level of protection is described in the ESR and PTS.

All interior door openings shall be bullet resistant type. Match construction of exterior doors.

“Windows” are openings in interior and exterior walls. They shall be framed to provide for easy installation of non ballistic panels or glazing.

Ballistic gates

Ballistic gates shall be designed to allow for closing off of indicated corridors. The gates shall be ballistic to match wall construction and shall be 7' high. Gates shall have a positive securing mechanism to prevent them from coming open accidentally.

Framed Opening

Framed openings shall have a channel or angle attached to the jambs that will permit the activity to attach wood blocking if required. Channels or angles shall have bolts welded to the channel or angle that will allow attachment of the blocking. Head of opening is not required to have a channel or angle.

Catwalk and railings

Catwalk shall be manufactured from galvanized steel grate. Grating shall be designed with maximum open area.

Railings shall be galvanized steel pipe or tube railings designed for industrial occupancy.

Catwalks and railing system is not required to have any ballistic protective features.

Catwalks shall be suspended from structure above.

Precast concrete wall panels and gates

Provide precast concrete wall panels inside the CQC where indicated. The walls when constructed shall be 1900 mm tall. The wall system shall consist of a concrete post approximately 100mm x 100mm with slots to receive wall panels. Posts shall be designed to accommodate different configurations of panels. The wall panels shall be of lightweight concrete, approximately 50 mm thick. Size shall be approximately 1500 mm long x 400 mm high. Panels shall be cast with a “realistic” finish such as stone or brick.

Posts shall be set in galvanized steel sleeves cast into the slab and shall permit the owner to replace damaged components.

Panels shall be able to be easily removed from the system without the use of a crane and without damaging the system.

Gates shall be solid metal panels with steel frames. Gates shall be independently mounted in posts separate from the wall panel system. Gate posts shall be installed in sleeves in the floor to allow for replacement. Gates are not required to be ballistically protected.

Exterior Features and Components

The "courtyard" shall be similar to other containment walls. Adjust opening locations as required to prevent accidental discharges from leaving the compound.

Roofing over Courtyard entrances

Provide a covered area over each of the entrances to the Trainer Building. The roof may need to be ballistic if determined by the design builder that protection is required to prevent projectiles from leaving the compound.

Gates in Courtyard

Gates shall be provided to separate the Zones as indicated. Gates shall be fabricated of metal and shall provide a visual barrier between the different zones. Gates are not required to provide ballistic protection.

Stairs to Catwalk

Stairs to catwalk shall be as specified in Performance Technical Specifications.

Ventilation System Overview:

Provide a single-pass (100% OA) ventilation system to serve the training area of the small arms range (CQC) building. The system shall be of a vertical down flow type such that a uniform flow distribution is maintained across a breathing zone of 4 to 6 feet above the floor. The air shall not be heated. Incoming outside air shall pass through MERV-7 pre-filters. Air shall be exhausted through an under floor ducted system. System shall mitigate airborne lead particles such that occupants are not over exposed in accordance with OSHA CFR 1910.1025 for maximum lead exposure.

The system shall be designed to minimize air, duct, and fan noise within the training area. Perform and submit an acoustic analysis of the entire designed ventilation system. Sound attenuators, quieter fans, and other sound reduction measures shall be used as required to provide a max NC rating of 45 in the training area, at a level 6 feet above finished floor.

Supply/Make-Up:

Outside air shall be supplied as high as practical above the catwalk level, near the roof structure. Air shall be distributed through steel ductwork (Refer to section D3040) and discharged, without producing drafts or high velocity jet streams, through non-aspirating diffusers. The maximum downward air velocity from diffusers (throw velocity) shall not be more than 50 feet per minute at any point 9'-00" above finished floor. Diffusers shall be laid out in a uniform grid pattern with a minimum of one diffuser per 100 SF. Provide a minimum of four supply air zones. (More zones may be used.) Minimum supplied ventilation rate for training areas of the building shall be 18 air changes per hour based on the total training floor area and a height of 9' above finished floor. Select fans and size duct distribution capable of operating at 115% design airflow. Provide sufficient straight ductwork upstream of outlets to allow for balancing per ASHRAE guidelines.

Exhaust:

Exhaust shall be removed through floor grilles located in an even grid (10'x10') of exhaust pits at a minimum of one per 100 SF and a minimum of one per training room. Each exhaust pit shall consist of a 24" square perforated plate or grille over top of the pit. Each pit shall have a balancing damper at the duct connection for system testing and balancing. The perforated plate or grille shall be rigid enough to support heavy foot traffic. Openings shall be small enough such that spent casings will not pass through. Each plate or grille shall also be readily removable for routine cleaning and ease of maintenance. The exhaust flow rate shall be slightly higher than the supply flow rate to maintain negative pressure in the training spaces. The exhaust system shall be zoned equivalently to and with the same number of fans as the supply system. Exhaust fans shall be arranged such that the location of exhaust discharge shall be on

the opposite side of the CQC building relative to the location of the Administration building and shall be located as far from Hospital Road as possible. The exhaust discharge should be at least 10' above grade and shall be designed to prevent rainwater from entering the ductwork.

Ductwork & Equipment:

Supply ductwork shall be galvanized steel. Exhaust ductwork shall be non-ferrous and rated for underground installation. PVC is acceptable. Provide support as required for the underground installation. Provide a cleanout at the end of each main exhaust run and at least one per fifty feet. Fans can be located either within the building or outside. Maximizing training floor space is paramount to the operation and floor space shall not be consumed for mechanical equipment. All equipment shall be accessible for ease of maintenance.

Controls:

Provide a DDC (Direct Digital Control) operating system. The DDC system shall be integrated with the building automation and lighting control system. Each zone (supply and corresponding exhaust fan) shall be manually operated and shall have three modes of operation as follows;

- Training Mode – Design airflow
- Maintenance Mode – One half design airflow
- Off Mode – No flow, exhaust and supply dampers closed

All system fans shall be VFD controlled to maintain design supply airflow and a slightly negative building pressure. Provide flow stations for each fan and differential pressure sensors. Provide all other sensors as required for DDC controls in UFC-300-10N Mechanical Engineering. Provide a DDC operator interface that shows that status of each zone. Provide an alarm such that system operator is immediately informed of any system fault.

Fire Protection System:

A pre-action sprinkler system will be provided for the CQC Trainer building. This system will be a single interlocked pre-action system, utilizing high temperature sprinklers, and heat detectors to activate the pre-action valve. System air supervision will be provided. The design density for the sprinkler system shall be 0.2 gpm/ft² over the hydraulically most remote 2,000-ft² area. A 500-gpm allowance for outside hose streams shall be provided.

A fire pump is required to supply the sprinkler system with water at an adequate pressure. A 500-gpm horizontal split case electric fire pump will be provided.

The CQC trainer will be equipped with an automatic fire alarm system. A heat detection system will be provided throughout the building for activation of the pre-action sprinkler system. The main FACP for the building will be located in the Administration Building. There is no appropriate location for the FACP in the training building. The panel may be damaged if located in the training spaces, and the mechanical room has no humidity control to protect the panel. Given the extensive control of other features within the training building from the control building it appears logical to place the fire alarm panel in the control space. The Administration Building will not be provided with an installed suppression system but the fire alarm system has been extended to cover the space.

At times the CQC Trainer building will contain significant volumes of smoke produced during exercises. This smoke will be removed by ventilation systems within the building. No smoke detection of any kind will be provided in the trainer building as the smoke produced during training exercises would lead to activation of the fire alarm system. A control module will be provided to shut down the building air handling systems upon activation of the building fire alarm system.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G10 SITE PREPARATION

SYSTEM DESCRIPTION

The site preparation system consists of site clearing, demolition, salvage, relocation, and earthwork necessary to ready the site for other work associated with the project.

GENERAL SYSTEM REQUIREMENTS

Develop the project site and perform all off-site work necessary to meet the requirements of the project, antiterrorism criteria, local codes, reference standards, technical specifications and performance criteria.

A topographic survey of the existing site has been performed in September 2008 and is included in Part 6. The topographic survey has been provided to show the location of existing facilities, areas of new work required by this RFP and the character of the sites. Prior to starting work, physically verify the location of all existing utilities and obtain all additional survey data required to provide a quality final design. The existence, size and/or location of the utilities are not guaranteed by the surveys provided. The Contractor shall verify the location of all utilities prior to construction. Electronic files of the topographic surveys will be provided to the Contractor only after award of the contract.

Subsurface soil information, including a geotechnical report is included in other portions of this RFP.

Any included subsurface data and information is only for the Contractor's information and is not guaranteed to fully represent all subsurface conditions. The Government shall not be responsible for any

interpretation or conclusion by the Contractor drawn from the data or information.

Any geotechnical report included with site investigation data is provided only to better convey data (boring logs, testing, etc.) or to document observed site conditions. The assumptions, analysis, and recommendations of the accompanying report were developed for preliminary planning purposes only and may not be based upon present project requirements. Requirements stated in Parts 3 and 4 of the RFP take precedence over any content of any included geotechnical report.

The Contractor is required to retain a geotechnical engineer experienced and licensed in the geographic region of the project to interpret the provided data as related to his design concept and develop requirements for bidding. Additional requirements for the geotechnical design of this project are provided elsewhere in this RFP.

Minor variations between borings should be anticipated. The Contractor shall bear all costs associated with the site preparation and actual foundation except as allowed by the Contract Clause FAR 52.236-2, "Differing Site Conditions". The Contractor's Geotechnical Engineer shall perform additional subsurface investigation as required to adequately determine all applicable geotechnical factors including the type and capacity of the project foundation(s). The Contractor's Geotechnical Engineer shall consider the provided information and any additional information obtained and prepare a report as described in other portions of this RFP.

The Contractor shall incorporate low impact development features and methodology in accordance with UFC 3-210-10 "Low Impact Development."

Unless otherwise noted, provide new facilities at the locations indicated on the drawings in another part of this RFP.

Minimize the impact of construction activity on operations and neighboring facilities.

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall submit a complete "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link

<http://www.wbdg.org/ndbm/Download/Download.html?Tab=Download>. Contractor shall determine correct permit fees and pay said fees. Copies of all permits, permit applications, and the completed PROD form shall be forwarded to the Government's Civil Reviewer and Environmental Reviewer.

Jurisdictional tidal and non-tidal wetlands have not been identified on the project site.

Coordinate and obtain the FEAD'S approval for proposed haul route(s), work site access point(s), employee parking location(s) and material laydown and storage area(s).

Refer to Site Analysis and Building Requirements Sections for additional site preparation functional program information.

G1010 SITE CLEARING

G101001 CLEARING

The project site does not have saleable timber.

All timber on the project site noted for clearing shall become the property of the Contractor, and shall be removed from the project site and disposed of off station.

Burning will not be allowed.

G101002 TREE REMOVAL

Remove and dispose of all trees as required for project construction. The completed site shall incorporate all trees that do not directly impact demolition or grading activities.

G101003 STUMP REMOVAL

Remove stumps to a depth of at least 450 mm (18") below ground surface and grind stumps 450 mm (18") to 750 mm (30") below ground surface. Fill remaining holes with sand.

G101004 GRUBBING

Within the clearing limits, remove and dispose of all logs, shrubs, matted roots larger than 50 mm (2") in diameter and other debris to a depth of at least 450 mm (18") below ground surface. Fill depressions made by grubbing with satisfactory material and compact to make new surface conform to the adjacent ground surface.

G101006 DEBRIS DISPOSAL

All grubbing and clearing residue, demolished material, rubbish and debris generated by this project shall be hauled off-site and off station by the Contractor.

G1020 SITE DEMOLITION & RELOCATIONS

G102002 ABOVEGROUND SITE DEMOLITION

Completely remove all aboveground site features within the limits of demolition as indicated on the attached drawings.

G102002 1.1 ABOVEGROUND STORAGE TANKS

An aboveground storage tank report is not provided to support this project.

G102003 UNDERGROUND SITE DEMOLITION

Abandonment of utility systems shall be done in a manner that conforms to applicable codes and regulations, removes their presence from the ground surface and clearly indicates that they have been abandoned. Utilities shall not be abandoned in place underneath or within 3.0 m (10 feet) of any new facilities. Remove and relocate existing utility piping, conduits, and utility structures under the proposed building.

All piping to be abandoned shall be filled with flowable fill. Flowable fill, or controlled low strength material (CLSM) shall consist of Portland cement, fly ash, sand and gravel or crushed stone. Gravel, crushed stone or fly ash are not required materials but may be used. The cement, fly ash and aggregate shall be mixed with water to provide a flowable mixture that has a flow exceeding 8 inches when measured in accordance with ASTM D6103, Standard Test Method for Flow Consistency of Controlled Low Strength Material (CLSM). The strength of this mixture at 28 days shall exceed 50 psi and be less than 300 psi as prepared and measured by ASTM D5832, Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders. The material shall be sampled and tested in accordance with ASTM D5971, Standard Practice for Sampling Freshly Mixed Controlled Low-Strength Material and ASTM D6023, Standard Test Method for Density (Unit Weight), Yield, Cement Content and air Content (Gravimetric) of Controlled Low Strength Material.

Remove existing utility structures to 3 feet (900 mm) below existing or new adjacent grade, whichever is greater. Break up bases to permit drainage. Fill with clean sand.

G102003 1.1 UNDERGROUND STORAGE TANKS

An underground storage tank report is not provided to support this project.

G102005 UTILITY RELOCATION

A utility connection permit will be required.

Comply with the requirements of the utility provider concerning the utility relocation:

1. Telephone Systems
2. Natural Gas

G102006 FENCING RELOCATION

Relocate or reuse existing fence and its appurtenances as indicated on the drawings in another part of this RFP.

G1030 SITE EARTHWORK

G103001 GRADING

Finish floor elevations for new facilities shall be above the 100 year flood elevation, or no less than 2.73 m (9 ft.) NGVD, whichever is greater. Provide elevations for mechanical/electrical equipment pads above the 100 year flood elevation.

G103004 FILL & BORROW

Borrow and select fill shall come from approved off-base sources.

G103006 SOIL STABILIZATION

The following methods of soil stabilization will not be allowed: lime, lime slurry, asphalt, and pressure grouting.

G103007 SLOPE STABILIZATION

Provide slope stabilization through appropriate grading and site design for a minimum factor of safety of 1.5 or slope that does not exceed the maximum slope per local code requirements.

G103008 SOIL TREATMENT

Treat the area around the entire foundation of each building for termite control in accordance with manufacturer's instructions.

G103009 SHORING

Not used.

G103010 TEMPORARY DEWATERING

Not used.

G103011 TEMPORARY EROSION & SEDIMENT CONTROL

All temporary erosion and sediment controls shall be incorporated in accordance with the Virginia Erosion and Sediment Control Handbook (VESCH) and COMNAVREG MIDLANT Instructions (Appendix).

G103090 OTHER SITE EARTHWORK

Not used.

G1040 HAZARDOUS WASTE REMEDIATION

A contaminated soil/groundwater report is not provided to support this project.

Prior to starting work, conduct any additional testing that may be needed to provide a final design and comply with all applicable federal, regional, state and local regulations. Refer to UFC 3-800-10N, *Environmental Engineering for Facility Construction*, for additional requirements and criteria.

If dewatering is required during any excavations, provide dewatering in accordance with UFGS Specification Section 31 00 00.

G1040 1.1 EXCAVATION

Where excavation extends into groundwater levels, dewatering methods shall be employed on a localized basis to facilitate excavation operations. Water generated by dewatering during excavation shall be collected, tested and disposed of in accordance with: State and Federal Regulations

G1040 1.2 STOCKPILED SOILS

For stockpiled soils, provide a minimum of one test for every 250 cubic meters for TPH, and one test for every 250 cubic meters for BTEX and TCLP. Soils that contain 100 ppm or more TPH, 10 ppm or more BTEX are considered contaminated materials. Testing shall be performed in accordance with UFGS Specification Section 31 00 00.

G1040 1.3 CLEAN FILL

Soils that are determined as clean fill via testing shall be backfilled and compacted in accordance with the requirements listed in this section.

G1040 1.4 SPILLS

In the event of a spill or release of hazardous substances, pollutant, contaminant or oil, notify the Contracting Officer immediately. Containment/Control actions shall be taken immediately to minimize the effect of any spill or leak. Clean up shall be performed at the Contractor's expense in accordance with:

G1040 1.5 DISPOSAL

All waste materials shall become the property of the Contractor and shall be transported, disposed of or recycled in accordance with all State and Federal Regulations.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G20 SITE IMPROVEMENTS

SYSTEM DESCRIPTION

The site improvements system consists of pavements and pavement related features, landscaping and other exterior site development work related to this project. Pavement design shall be performed by a licensed Professional Engineer familiar with conditions local to the project site.

GENERAL SYSTEMS REQUIREMENTS

Provide site improvements as required to make a useable facility that meets functional and operational requirements, incorporates all applicable anti-terrorism, force protection and physical security requirements and blends into the existing environment.

Provide site improvements in conformance with applicable requirements of the Uniform Federal Accessibility Standards.

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall complete the "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link
<http://www.wbdg.org/ndbm/Download/Download.html?Tab=Download>.
Contractor shall determine correct permit fees and pay said fees. Copies of all permits, permit applications, and the completed PROD form shall be forwarded to the Government's Civil Reviewer.

Provide improvements as required to conform to all applicable anti-terrorism and physical security requirements.

Minimize the impact of construction activity on operations and neighboring facilities.

Locate new site improvements at locations indicated on the drawings in another part of this RFP. If specific locations are not provided, site the improvements to develop appropriate and positive relationships with other facilities and to conform to existing development patterns.

Refer to Site Analysis and Building Requirements Sections for additional site improvement functional program information.

G2020 PARKING LOTS

Provide parking for 20 private motor vehicles (PMVs). The design of pavements shall take into consideration the anticipated daily traffic (50 cars, 10 single unit trucks, over the life of the project (20years) as well as the existing soil conditions at the site.

Provide parking lots of bituminous pavement or rigid pavement. Provide rigid pavement for dumpster pad and work stand. Gravel pavement may not be used. Porous pavement shall not be used.

Provide new parking and other pavement sections as required by soil conditions and determined by Designer of Record. Minimum bituminous pavement section is 2" bituminous surface on 8" aggregate base over a compacted subgrade. Minimum PCC pavement section is 6" PCC on 4" aggregate base over a compacted subgrade.

Provide other parking improvements including one parking entrance for two way traffic and a separate service drive for delivery vehicles markings and signage.

Provide handicapped parking in accordance with the Uniform Federal Accessibility Standards (UFAS) and the Americans with disabilities Act (ADA).

Parking Facility and associated entrance shall accommodate user drop off and pick-up by 84 passenger bus.

G202001 BASES & SUBBASES

Crushed concrete meeting specified gradation for aggregate base or subbase courses may not be used. Aggregate base course shall meet the requirements of Section 208 of SHS (Virginia Department of Transportation Road and Bridge Specifications.)

G202002 CURBS & GUTTERS

Provide curb and gutter to tie into adjacent facilities.

G202003 PAVED SURFACES

Portland cement concrete shall have a minimum design flexural strength of 4.48 to 4.83 MPa (650 to 700 psi) in not more than 28 days.

Recycled asphalt pavement material may be used for bituminous. Concrete pavement (as permitted by the SHS).

Bituminous pavement shall meet the requirements of Section 211 of the SHS (Virginia Department of Transportation Road and Bridge Specifications.)

G202004 MARKING & SIGNAGE

Provide permanent and temporary markings (pavement, curb and object), signage (regulatory, warning and guidance) and other traffic control devices as required to facilitate proper utilization of the parking areas.

Provide pavement markings and signage in accordance with the Manual of Uniform Traffic control Devices (MUTCD) and SHS.

G202005 GUARDRAILS & BARRIERS

Provide wheel stops, and bollards in accordance with the UFC 3-200-10N, *Civil Engineering*.

Bollards shall be in compliance with UFC 3-200-10N Civil Engineering and a minimum of 1.2m (48") tall, 102mm (4") diameter steel pipe filled with concrete and painted yellow.

G2030 PEDESTRIAN PAVING

Provide a network of Portland cement concrete sidewalks, separated from, but connected to vehicular circulation systems, to allow pedestrian circulation between various elements of the project.

G2040 SITE DEVELOPMENT

G204001 FENCING & GATES

Provide chain link fence as indicated on the drawings in another part of this RFP.

Provide [zinc-coated steel fencing components in accordance with FS RR-F-191/1, Type 1 for the fencing system. Provide top and bottom tension wires; where tying into an existing fence, match fencing system.

Ensure that the fabric height is at least 2.1 m (7 feet). Provide outriggers and three strands of barbed wire.

Provide manually operated cantilever slide gates at any access drive. The gates shall match the materials and height of the chain link fencing.

Chain link fencing and gates shall be from the same manufacturer.

G204009 FLAGPOLES

Provide two (2) 20" (6 meter) tall aluminum flag pole and foundation, and bravo flag.

G204090 OTHER SITE IMPROVEMENTS

Provide an approved dumpster enclosure.

G2050 LANDSCAPING

Provide complete landscaping consisting of seeded and/or sodded lawn. Seeded grass shall be Common Bermuda and sodded grass shall be Tifway 419 Hybrid Bermuda.

Guarantee all landscaping for a period of one year after final acceptance of the project.

G205001 FINE GRADING AND SOIL PREPARATION

Provide 100 mm (4 inch) of topsoil for all grassed areas and other pervious areas disturbed by contractor operations.

G205002 EROSION CONTROL MEASURES

Prevent erosion from occurring by providing erosion control measures in accordance with the Virginia Erosion and Sediment Control Handbook (VESCH).

G205004 SEEDING SPRIGGING AND SODDING

Areas indicated to be turfed in another part of this RFP shall be seeded or sodded. Provide seed and fertilize existing grass areas disturbed by Contractor operations.

--End of Section--

6. ENGINEERING SYSTEMS REQUIREMENTS

G30 SITE CIVIL/MECHANICAL UTILITIES

SYSTEM DESCRIPTION

The site civil/mechanical utility systems include water supply systems, sanitary sewer systems, storm drainage systems, and associated appurtenances which are more than 1.5 meters (5 feet) outside the building.

GENERAL SYSTEM REQUIREMENTS

Develop the site to provide water, fire protection, sanitary sewer, and storm drainage services that meet the requirements of each applicable regulatory agency that governs and issues permits for the construction and operation of these systems.

Provide each system complete and ready for operation.

Physically verify the location of existing above and below ground utilities prior to starting work.

Identify and obtain all permits to comply with all federal, state, and local regulatory requirements associated with this work. The contractor shall complete the "Permits Record of Decision" (PROD) form with the first design submittal package. A blank PROD form can be obtained at the Download Tab of Part 6 of the NAVFAC Design-Build website at the following link

<http://www.wbdg.org/ndbm/Download/Download.html?Tab=Download>.

Contractor shall determine correct permit fees and pay said fees. Copies of all permits, permit applications, and the completed PROD form shall be forwarded to the Government's Civil/Mechanical Reviewer.

Minimize the impact of construction activity on facility operations and neighboring facilities.

Utility connection points are indicated on the drawings in another part of this RFP. Obtain final approvals from the Government's Civil/Mechanical Reviewer and the Contracting Officer for all utility connection points associated with this work.

Coordinate with the local utility providers and pay any fees or charges required to connect to their utility.

Refer to Site Analysis and Building Requirements Sections for additional site civil/mechanical utilities information.

Provide all required fittings, connections and accessories required for a complete and usable system. All equipment shall be installed per the criteria of PTS Section G30 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

G3010 WATER SUPPLY

The existing water system serving the project site is owned operated and maintained by Old Dominion Utility Services (ODUS) (utility provider). The Contractor shall be responsible for connecting to the utility service connection provided by ODUS, which shall be located at the 1.5 m (5 foot) line of the building envelope. The Contractor shall initiate the connection by submitting a "Water and Sewer Work Request – Fort Story" attached in appendix. Provide any modifications and connections to the existing water system in accordance with UFC 3-200-10N, *Civil Engineering*; the utility provider's requirements; and the state waterworks' regulations; whichever is more stringent.

Notify Old Dominion Utility Services of the additional demand generated by the proposed facility. Provide a copy of all correspondence with the utility provider to the Government's Civil/Mechanical Reviewer.

Provide connection to the point of connection provided by Old Dominion Utility Services system at the point indicated on the drawings in another part of this RFP.

The contractor and designer of record shall coordinate all aspects of the potable and fire water services. The contractor shall ensure that ODUS is contacted to initiate the design, permitting, and installation of the water service. The contractor shall provide all demand data to ODUS to ensure a proper design.

G301002 POTABLE WATER DISTRIBUTION

Fire hydrant type, color and location for hose lay requirements shall be coordinated with the base fire department and or NAVFAC Fire Protection.

G3020 SANITARY SEWER

The existing sanitary sewer collection system serving the project site is owned operated and maintained by Old Dominion Utility Services (ODUS) (utility provider). Provide the new sanitary sewer system and connections to the existing sanitary sewer collection system in accordance with UFC 3-200-10N, *Civil Engineering*; the utility provider's requirements; and the state sewerage regulations; whichever is more stringent.

Notify Old Dominion Utility Services of the additional wastewater flow generated by the proposed facility. Provide a copy of all correspondence with the utility provider to the Government Civil Reviewer.

Provide connection to the existing sanitary sewer collection system at the point indicated on the drawings in another part of this RFP. In identifying a suitable point of connection, provide consideration of the capacity of the existing collection system

The contractor and designer of record shall coordinate all aspects of the potable and fire water services. The contractor shall ensure that ODUS

is contacted to initiate the design, permitting, and installation of the water service. The contractor shall provide all demand data to ODUS to ensure a proper design.

G302001 SANITARY SEWER PIPING

Sanitary sewer pipe shall be PVC or ductile iron.

G302002 SANITARY SEWER MANHOLES & CLEANOUTS

Provide precast concrete manholes only.

G302003 LIFT STATIONS AND PUMPING STATIONS

A wastewater pump station will be required.

Coordinate with Old Dominion Services to provide duplex grinder pump station. Provide automatic control to start and stop the pump system. Provide automatic level control by floats in accordance with the preferences of the system owner to fill and prevent overflow of the wet well. Provide an emergency pump connection.

Provide a telemetering system and recording equipment to a location manned 24 hours a day for the transmission and recording of pump operation. Alarms shall be transmitted to a location manned 24 hours a day.

Provide electrical connections for a portable emergency generator hook-up an emergency generator sized to start up and maintain the total rated running capacity of the station, including the pumps, controls, lighting, ventilation and other auxiliary equipment.

Old Dominion Utility Services (ODUS) will design, permit and install the required sanitary lift station. The Contractor and Contractors Engineer of Record shall coordinate with ODUS to ensure ODUS has all information necessary for system design.

G3030 STORM SEWER

The existing storm sewer system serving the project site is owned, by the federal government. Provide the new storm sewer system and connections to the existing storm sewer system in accordance with UFC 3-200-10N, *Civil Engineering*; the utility provider's requirements; and the state stormwater management laws and regulations; whichever is more stringent.

Provide connection to the existing storm sewer collection system at the point indicated on the drawings in another part of this RFP. Confirm that the existing outfall has adequate capacity to receive the additional stormwater flow generated by the project.

Vehicle wash areas are not to be provided.

G303001 STORM SEWER PIPING

The following materials for storm sewer piping will not be allowed: corrugated steel, corrugated aluminum and HDPE.

Storm Sewer: Pipe connecting to any rain leader and conveying runoff to any storm water management feature shall be PVC or HDPE and may be prepared. Coordinate rain leader design with building foundation.

G303004 CULVERTS

The following materials for culvert piping will not be allowed: PV,] ductile iron, corrugated steel, corrugated aluminum and HDPE.

G303005 HEADWALLS

Not used.

G303006 EROSION & SEDIMENT CONTROL MEASURES

Prevent erosion from occurring throughout demolition and construction activities by providing erosion control members in accordance with the Virginia Erosion and Sediment Control Handbook.

The Contractor and Engineering of Record shall comply with COMNAVREG MIDLANT Instructions. Subject: Virginia Stormwater Management Program Construction Permit Instruction. This document provides direction for the National Pollution Discharge Elimination System (NPDES), Storm Water Pollution Prevention Plan (SWPPP), Erosion and Sedimentation Control and Stormwater Management Permitting.

G303007 STORMWATER MANAGEMENT

A stormwater management facility will be required for this project.

The contractor and designer of record shall provide a design in accordance with the COMNAVREG MIDLANT Instruction, Subject: Post Construction Stormwater Runoff Management Instruction.

Low impact development is a project requirement and shall be implemented in accordance with UFC 3-210-10, "Low Impact Development."

-- End of Section --

6. ENGINEERING SYSTEMS REQUIREMENTS

G40 SITE ELECTRICAL UTILITIES

SYSTEM DESCRIPTION

The site electrical utility system consists of all power and telecommunications and fiber optic cabling from the existing distribution system point of connection including all connections, accessories and devices as necessary and required for a complete and usable system. This section covers installations up to within 5 feet (1.5 meters) of new building location.

GENERAL SYSTEM REQUIREMENTS

Provide an Electrical System complete in place, tested and approved, as specified throughout this RFP, as needed for a complete, usable and proper installation. All equipment shall be installed per the criteria of PTS Section G40 and the manufacturer's recommendations. Where the word "should" is used in the manufacturer's recommendations, substitute the word "shall".

G4010 ELECTRICAL DISTRIBUTION

Primary service from the utility owned overhead service along hospital road to the site will be provided by Dominion Virginia Power Company.

Dominion Virginia Power
4901 Princess Anne Road
Virginia Beach, VA 23462-4309
(757) 671-3410
Attn: Mr. Steve Buell
(757) 434-6195

The available fault current at the point of connection shall be assumed to be an infinite bus.

G401001 SUBSTATIONS

Not used.

G401002 TRANSFORMERS

Provide by local utility company (Dominion Virginia Power).

G401003 SWITCHES, CONTROLS AND DEVICES

Not used.

G401004 OVERHEAD ELECTRIC CONDUCTORS

Not used.

G401005 TOWERS, POLES, CROSSARMS AND INSULATORS

Not used.

G401006 UNDERGROUND ELECTRIC CONDUCTORS

Provided by local utility company.

G401007 DUCTBANKS, MANHOLES, HANDHOLES AND RACEWAYS

Provided by local utility company.

G401008 GROUNDING SYSTEMS

Provided by local utility company.

G401009 METERING

Provided by local utility company.

G401010 CATHODIC PROTECTION SYSTEMS

Not used.

**G401011 EQUIPMENT REQUIREMENTS FOR
COASTAL AND HIGH HUMIDITY AREAS**

Not used.

G4020 SITE LIGHTING

Provide site lighting for exterior including underground distribution, handholes, grounding, poles, fixtures and controls as required for a complete and usable system.

**G402001 EXTERIOR LIGHTING FIXTURES AND
CONTROLS**

Area and Security Lighting

Provide high pressure sodium type lighting fixtures, complete with lamps.

Provide lighting control for exterior lighting fixtures with individual photocell switches on each luminaire.

G402002 SPECIAL SECURITY LIGHTING SYSTEMS

Not used.

G402003 OTHER AREA LIGHTING

Not used.

G402004 LIGHTING POLES

Provide concrete poles complete with foundations for site lighting.

**G402005 UNDERGROUND ELECTRIC
CONDUCTORS**

Provide a complete underground distribution system for all site lighting systems.

**G402006 DUCTBANKS, MANHOLES AND
HANDHOLES**

Provide a direct buried underground system including conduits and handholes to meet the connection requirements indicated in paragraph G4020 "Site Lighting".

G402007 GROUNDING SYSTEMS

Provide a complete grounding system for all site lighting systems.

G4030 SITE COMMUNICATION AND SECURITY

Provide a site communication system including, but not necessarily limited to, Voice and Data Telecommunications Systems, Cable Television (CATV) Systems, including all conduit and wiring, underground structures, termination equipment, poles and structures, and grounding systems as required for a complete and usable system.

G403001 TELECOMMUNICATIONS SYSTEMS

The connection point for the site telecommunications systems shall be underground at existing pole on Hospital Road underground in direct buried conduit to the telecommunications equipment room.

Provide 25 pair copper and 2 strand single mode fiber optic cable between the connection point and building entrance facilities.

G403002 CABLE TV SYSTEMS (CATV)

The connection point for the site CATV shall be underground at existing pole on Hospital Road and extended to the project site underground in ductbank to the telecommunications equipment room.

Provide 1 empty 2 inch (53 mm) conduits with pull strings between the exterior connection point and equipment room. Cox Cable Company will provide cable into the building entrance facilities.

G403003 CABLES AND WIRING

Cables and wiring for site telecommunications and security systems shall be as indicated in their respective categories.

G403004 DUCTBANKS, MANHOLES AND HANDHOLES

Not used.

G403005 TOWERS, POLES AND STANDS

Not used.

G403006 TV CAMERAS AND MONITORS

Not used.

G403007 ELECTRONIC SECURITY SYSTEMS (ESS)

The Contractor shall provide the complete design for all physical security equipment (PSE), also known as electronic security system (ESS). The design shall comply with requirements found in UFC 4-021-02NF, OPNAV 5530.14C, and OPNAV 5530.13C. Under the basic contract award the contractor shall provide the installation of all conduit, wiring, and outlets associated with the PSE. Following completion of design and upon availability of funds an option (see bid schedule) will be awarded for the purchases, delivery, and installation of all PSE, complete and ready for use.

G403008 OTHER COMMUNICATION AND ALARM

Not used.

G403009 GROUNDING SYSTEMS

Provide a complete grounding system for all site communications and security systems.

G4090 OTHER SITE ELECTRICAL UTILITIES

Not used.

-- End of Section --