

**MEMORANDUM FOR RECORD**

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SUBJECT: Amendment 0004

1. TITLE: W917PM-08-R-0043 Kunduz Garrison Phase II
2. SOLCITATION NO: W917PM-08-R-0043
3. POC: Contracting Officer: Katherine K. Clemens x 540- 722-1186  
Contract Specialist: Mary J Abbott x 665-3467
4. DESCRIPTION:

**General Information**

Document Type: Presolicitation Notice  
Solicitation Number: W917PM-08-R-0043  
Posted Date: 28 Mar 2008  
Amendment Post: 13 May 2008  
Response Date: 07 June 2008  
Set Aside: Full & Open  
NAICS Code: 236220 – Commercial and Institutional Building Construction  
Classification Code:  
FSC Code: Y-119

SUBJECT: Y—Construction of Structures and Facilities

**Contracting Office Address**

Department of the Army, U.S. Army Corps of Engineers, U.S. Army Corps of Engineers, Afghanistan, Afghanistan Engineer District Kabul AFB, APO, AE, 09356, UNITED STATES

**Description**

NOTE: I have attached the SF30, page 1 only, for this attachment. You will need this SF30 when you submit your proposal.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. 0004		3. EFFECTIVE DATE 28-May-2008	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable) 1   38
6. ISSUED BY AFGHANISTAN ENGINEER DISTRICT US ARMY CORPS OF ENGINEERS KABUL APO AE 09356		CODE W917PM	7. ADMINISTERED BY (If other than item 6) <b>See Item 6</b>		
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X	9A. AMENDMENT OF SOLICITATION NO. W917PM-08-R-0043
				X	9B. DATED (SEE ITEM 11) 14-Apr-2008
					10A. MOD. OF CONTRACT/ORDER NO.
					10B. DATED (SEE ITEM 13)
CODE		FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.					
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
1. The purpose of this Amendment is to make the following revisions:  Proposal Schedule will change in its entirety Revised Master Plan Kunduz II - 27 May 08 - will change in its entirety  2. This amendment will also answer questions submitted under RFI #3 dated 27 May 2008. 3. All other terms and conditions shall remain unchanged.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
		TEL: <i>Katherine H. Clemens</i> FAX: <i>Katherine H. Clemens</i> BY: <i>Katherine H. Clemens</i>			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
(Signature of person authorized to sign)			(Signature of Contracting Officer)		28-May-2008

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**Contracting Office Address**

Department of the Army, U.S. Army Corps of Engineers, U.S. Army Corps of Engineers, Afghanistan, Afghanistan Engineer District Kabul AFB, APO, AE, 09356, UNITED STATES

**Description**

1. The purpose of this Amendment is to make the following changes; Offerors will change in its entirety the following documents:
  - Proposal Schedule
  - Revised Master Plan Kunduz II -27 May08
2. This amendment will also answer questions submitted under RFI #3 dated 27 May 2008.
3. All other terms and conditions shall remain unchanged.

APPROVED / DISAPPROVED



KATHERINE K. CLEMENS  
Contracting Officer

REVISED SECTION 00010 (3) Addendum #4**SECTION 00010  
PROPOSAL SCHEDULE**

The Contractor shall provide a price for all items, including those labeled, "Optional Items." The Government will evaluate the Contractor's entire proposal to determine which CLINs represent the best value to the Government.

No.	Description	Qty	Unit	Unit Price	Total Amount
<b>1. Base Proposal:</b>					
<b>0001 Design Program:</b>					
000101	Design Costs	1	LS	xxx	\$ _____
000102	As-Built Drawings Costs	1	LS	xxx	\$ _____
000103	Corps of Engineers Facilities	1	LS	xxx	\$ _____
<b>Sub-Total Design Program:</b>					\$ _____

**0002 Site Development / Improvements:**

000201	Mobilization/De Mobilization Costs	1	LS	xxx	\$ _____
000202	Demolition, Grading and Storm Water Runoff Costs	1	LS	xxx	\$ _____
000203	Power Generators & Fuel Tanks	1	LS	xxx	\$ _____
000204	Force Protection Perimeter	1	LS	xxx	\$ _____
000205	Road Network (Gravel finish) (Approx 3Km), Sidewalk (Approx 2 KM) & Approx 80 Gravel Parking Spaces (Includes roadway And parking lighting)	1	LS	xxx	\$ _____
000206	Potable Water Storage and Distribution System	1	LS	xxx	\$ _____
000207	Waste Water Distribution / Collection System	1	LS	xxx	\$ _____
000208	Power Distribution System and connections / Commissioning	1	LS	xxx	\$ _____
<b>Sub-Total Site Developments / Improvements:</b>					\$ _____

**0003 Buildings & Building Complexes – Combat Support Battalion (CS):**

000301	BOQ "A" Type	1	Ea	\$ _____	\$ _____
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	000302	Infantry Barracks Type B	1	Ea	\$ _____	\$ _____
	000303	Battalion HQ Building	1	LS	xxx	\$ _____
	000304	Battalion Storage Bldg	1	LS	xxx	\$ _____
	000305	Vehicle Maintenance Garage	1	LS	xxx	\$ _____
	000306	POL Building	1	LS	xxx	\$ _____
	000307	Solid Waste Collection Point	1	LS	xxx	\$ _____

**Sub-Total CS Battalion Complex:** \$ \_\_\_\_\_

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**0004 Buildings & Building Complexes – Combat Service Support Battalion (CSS):**

	000401	BOQ "A" Type	1	Ea	\$ _____	\$ _____
	000402	BOQ "B" Type	1	Ea	\$ _____	\$ _____
	000403	Battalion HQ Building	1	LS	xxx	\$ _____
	000404	Battalion Storage Bldg	1	LS	xxx	\$ _____
	000405	Vehicle Maintenance Garage	1	LS	xxx	\$ _____
	000406	POL Building	1	LS	xxx	\$ _____
	000407	Solid Waste Collection Point	1	LS	xxx	\$ _____
	000408	CS/CSS Arms Storage Building	1	LS	xxx	\$ _____

**Sub-Total CSS Battalion Complex:** \$ \_\_\_\_\_

**Sub-Total Buildings & Building Complexes:** \$ \_\_\_\_\_

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**0005 Installation Bid Items**

	000501	Medical Clinic	1	LS	xxx	\$ _____
	000502	Central Receiving Warehouse	1	LS	xxx	\$ _____
	000503	DPW Building	1	LS	xxx	\$ _____
	000504	Flagpoles (6)	1	LS	xxx	\$ _____
	000505	Vehicle Re-fueling Point	1	LS	xxx	\$ _____
	000506	Training Facility	1	LS	xxx	\$ _____

000507	Fire Station Facility	1	LS	xxx	\$ _____
000508	BHC/GHC Arms Storage Building	1	LS	xxx	\$ _____
000509	Anti-vehicle Trench 1800M	1	LS	xxx	\$ _____
000510	Detention Facility	1	LS	xxx	\$ _____
000511	ETTC Laundry Facility	1	LS	xxx	\$ _____
000512	INF#1, #2 &#3 Arms Storage Building	1	LS	xxx	\$ _____

**Sub-Total Installation:**

\$ \_\_\_\_\_

0006	DBA Insurance	1	LS	xxx	\$ _____
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**TOTAL BASE BID ITEMS:**

\$ \_\_\_\_\_

**2. Options Buildings & Building Complexes – BHC/GHC Battalion (BHC/GHC)**

0006	BHC Vehicle Maintenance Garage	1	LS	xxx	\$ _____
0007	BHC POL Building	1	LS	xxx	\$ _____
0008	GHC Vehicle Maintenance Garage	1	LS	xxx	\$ _____
0009	GHC POL Building	1	LS	xxx	\$ _____
0010	Solid Waste Collection Point	1	LS	xxx	\$ _____

**TOTAL ALL BRIGADE AND GARRISON  
OPTIONS**

\$ \_\_\_\_\_

**3. Options Installation**

0011	Site Survey / Master Planning	1	LS	xxx	\$ _____
0012	Ammunition Supply Point (including Access road) & Guard Tower	1	LS	xxx	\$ _____
0013	Community Center (MWR)	1	LS	xxx	\$ _____
0014	Helipad	1	LS	xxx	\$ _____



3. Costs associated with this project shall include design and construction costs, site development, and utility installation.
4. DESIGN COSTS DEFINITION: Design costs shall consist of preparation of master planning and site designs, plans, design analysis, drawings, and specifications.
5. NON-DESIGN COSTS DEFINITION: Non-design costs shall include the following: initial site visits; field, topographic, property, boundary, utility, and right-of-way surveys; subsurface explorations and borings; feasibility, functional, and economic studies and other investigations; preparation or verification of as-built drawings; preparation of general and development criteria; preparation of general and feature design memoranda; services of consultants where not specifically applied to the preparation of working drawings or specifications; construction phase services; models, renderings, or photographs of completed designs; reproduction of designs for review purposes; and travel and per diem allowances in connection with the above excludable services.
6. COST LIMITATION: The established design cost limitation for all Design Costs, as defined in paragraph 4, shall not exceed 6 percent of the total construction cost.
7. SEPARATION OF WORK: All work for Design and Construction shall be included in all Proposal Items.
8. EVALUATION OF OPTIONS: The award will be made to the offeror whose proposal represents the best overall value to the Government. For pricing purposes the Government will evaluate both the Base Proposals and Option Proposals. The Government is not obligated to exercise the options.
9. EXERCISE OF OPTIONAL BID ITEMS: Optional bid items (if any) may, at the option of the Government, be added to the contract at any time within 180 calendar days after award of Base Proposal.
10. Period of performance is 320 calendar days from receipt of notice to proceed for the base items and 210 calendar days for all optional items. Liquidated damages are assessed at \$2,715.00 per day for every day of delay past the period of performance of either Base Items and Option Items. If there are conflict dates for performance period, Section 00010 governs.

-- End of Section --

REVISED SECTION 01010 (3) Addendum #4**SECTION 01010****SCOPE OF WORK****1. GENERAL**

The project consists of the design, site adaptation and construction of Phase II for the ANA 2-209<sup>th</sup> HQ facilities, ANA Installation in Kunduz, Afghanistan. Refer to site coordinates for approximate site location. The project is defined as the design, material, labor, and equipment to construct buildings, parking, utilities and other infrastructure features to support **Kunduz Garrison** to include: **Vehicle Maintenance Garages**, storage buildings; electrical distribution system; communication system, sanitary sewer collection / distribution system; solid waste collection points; installation of a water distribution system and all associated controls; construction of ground storage tanks to support a population of 1800 people; and optional paving of access road and network inside of the compound to include POV and military vehicle parking areas. Reference the table below for a list of base bid and optional bid items.

Note that in Phase I, one INF battalion **and possible two more battalions are being sited** in the area, therefore, the utility infrastructure of electrical power distribution, water distribution system as required, and communication systems shall be sized to accommodate this project which is approximately 1000 meters x 400 meters in area size. For additional information see para. 4.1. The contractor shall revise the design submittal Master Plan developed in Phase I of the ANA Base Camp to incorporate additional facilities.

The contractor shall perform a geotechnical investigation for the building foundations. The work within this contract shall meet and be constructed in accordance with current U.S. design and International Building Codes (IBC), Life Safety Codes (NFPA-101), Force Protection and security standards. A partial listing of references is included herein:

IBC, International Building Codes **2006**  
NFPA 101, Life Safety Codes  
UFC 4-010-01, DoD Minimum Anti-Terrorism Standards for Buildings.

**1.1 WARRANTY**

The Contractor shall repair and/or replace all defective materials or workmanship, at his own cost for a warranty period of one (1) year commencing upon the date of final acceptance of the project.

**1.2 ENGLISH LANGUAGE REQUIREMENT**

All information shall be presented in English. The Contractor shall have a minimum of one English-speaking representative to communicate with the COR at all times when work is in progress.

**1.3 SUBMITTALS**

Submittals and a Submittal Register are required as specified in Section 01335 of the Basic Contract.

**1.4 CQM TRAINING REQUIREMENT**

Before project design and construction can commence, the Contractor's Quality Control Manager is required to have completed the U.S. Army Corps of Engineers CQM course, or equivalent. The Construction Trades Training Center (CTTC) in Jalalabad, Afghanistan provides a course that satisfies

the requirement. Courses are offered at regular intervals. For enrollment and course information contact CTTC at the following:

Mhd. Haris

e-mail: [mharis@afghanreconstruction.org](mailto:mharis@afghanreconstruction.org)

Telephone: 0700 08 0602

Pervaiz

e-mail: [adpzmuj@yahoo.com](mailto:adpzmuj@yahoo.com)

Telephone: 0700 61 3133

### 1.5 LOCATION

All work under this task order is for the design, site-adaptation, and construction of ANA Infantry Battalion facilities at Kunduz, Afghanistan. Approximate coordinates are:

Longitude	68°55'13.67"E	68°56'05.83"E
Latitude	36°39'05.15"N	36°38'40.50"N
Longitude	68°55'40.70"E	68°54'48.99"E
Latitude	36°38'12.04"N	36°38'37.29"N

Altitude: The Site has rolling hills. The elevation varies from approximately 432 meters. See appendixes for topographic map of site.

## 2. UNEXPLODED ORDNANCE (UXO)

### 2.1 UXO REMOVAL AND CLEARANCE

#### **Contractor IS NOT responsible for clearance/removal.**

The contractor is not responsible for the clearance or removal of mines and unexploded ordnance (UXO) from the site prior to the commencement of construction. The site has been cleared and the certificate of clearance is available for review.

It is the responsibility of the Contractor to be aware of the risk of encountering UXO/mines and to take all actions necessary to assure a safe work area to perform the requirements of this contract. The Contractor assumes the risk of any and all personal injury, property damage or other liability arising out of or resulting from any Contractor action taken hereunder. The Contractor and its subcontractors may not handle, work with, move, transport, render safe, or disarm any UXO/mine, unless they have appropriate accreditations from the MAC.

If a UXO/mine is encountered during project construction, the Contractor shall immediately stop work in the affected area and immediately notify the Contracting Officer. UXO/mine disposal will not be the responsibility of the Contractor.

## 3. SUMMARY OF WORK/CONTRACTOR REQUIREMENTS

3.1 Work shall be executed in accordance with the Technical Requirements in Section 01015, all solicitation requirements, and the attached schematic building layouts.

3.2 The Contractor shall prepare complete designs and specifications for all buildings and systems for review and approval by the Government. All designs and specifications created by the Contractor shall become the property of the Government and may be used in the future by the Government for construction of similar facilities without further compensation to the Contractor. The Contractor shall provide all design submittals (Design Analyses, Specifications Design Drawings, etc.) for all contract

facilities/features at the 35% (includes 99% i.e. foundations, utilities, wall, fence design, etc.), 65% and 100% stage. In addition to printed full-sized copies, the Contractor shall provide electronic versions of all design documentation in AUTOCAD 2006 (version) to the AED in Kabul and the Resident Office. Files shall be arranged on a CD with each facility clearly identified as a separate subdirectory, with all files for that facility contained in that subdirectory. Each disk shall have an adhered printed label listing contents.

**Hand-written labels are unacceptable.**

Drawings and technical references are contained in Appendices and Section 01015. All requirements for building area size are net square meters excluding the exterior walls unless specifically indicated otherwise.

The contractor shall incorporate site and utility plans and design and construction requirements in accordance with the Phase I Master Plan. The contractor shall be responsible for the design and construction of electrical power distribution system, water **distribution system**, waste water distribution system and a ground drainage system which is included in the base bid item. Electric power, water, sewage, and ground drainage systems shall be designed and built to support all base and options items listed in the Section 00010. The cost of connecting utilities of electric power, water, sewage, and ground drainage system to a building/facility shall be included in the total cost of the building/facility, and the connection shall follow the master plan/design of the general site utility systems. Therefore it is highly possible that a utility connection for one building is also sized to support other buildings or option items according to the master design.

The Contractor **shall design, and construct the facilities as a design-construct contract** and shall be in accordance with the requirements stated in Section 01015: TECHNICAL REQUIREMENTS and as contained in this and other task order Sections. Refer to attachment following this section for more specifics for required spaces. The design and construction work shall include but not be limited to that shown within the attached table and described herein.

All requirements set forth in the Scope of Work, but not included in the Technical Requirements, shall be considered as set forth in both, and vice versa. Provide heating and cooling for all the facilities unless otherwise stated in Section 01010 or 01015.

All standard construction amenities and details such as heating, lighting, site drainage, utility connections, etc. shall be implied as a design and construction requirement. Drawings referenced are contained in Section 01015. Concrete walkways are required to connect all buildings, facilities, and features such as parking lots, power plants, etc.

In general, this project consists of designing, site adaptation, and constructing of the facilities/features listed in the table below.

Note: Phase I may still be in construction with that contractor still on site. The Phase II contractor shall make accommodations to ensure the two project sites are adequately separated and controlled for security and access, this shall include temporary chain link fences and security personnel to accomplish this separation.

3.3 The Contractor shall provide and maintain all Field Office facilities, housing, equipment and servicing as defined in Section 01060, paragraph 1.13 Special Facilities and Services to be Furnished by the Contractor.

#### 4. GENERAL REQUIREMENTS FOR BUILDINGS AND FACILITY COMPLEX

The contractor is required to provide **innovative methods** to construct the facilities in the most economic and efficient way without compromising the quality and timeliness. The contractor is to propose and decide the structure system and construction methods as long as the basic requirements specified in this RFP are met. For example, pre-engineered building system, site manufactured panel system, 3-D Wall Panel System used in other projects previously, and other creative construction methods fitting for the

local situation are encouraged by the government in order to reduce cost and increase efficiency. **The Contractor is required to identify the proposed method of construction on their Technical and Price Proposal.**

Work Item	Completion Dates-Days from NTP
4.1 Master Planning/Site Surveys – <b>OPTION 1</b>	60 days after award of option
4.2 Demolition and Site Grading, and Storm Water Runoff	60 days
4.3 Water Storage & Distribution System	320 days
4.4 Waste Water Sanitary Sewer Collection / Distribution System	320 days
4.5 Power Distribution System	320 days
4.5.2 Power Generator and Fuel Tanks	320 days
4.6 Force Protection Perimeter	150 days
4.7 Road Network	320 days
4.8 Combat Support (CS) Battalion	320 days
• Infantry Barracks Type B (1 each)	320 days
4.17 BOQ “A” Type (1 each)	300 days
• Battalion HQ Bldg	320 days
• Battalion Storage	320 days
• Vehicle Maintenance Garage 800 SM	320 days
• POL Building 25 SM	320 days
• Solid Waste Collection Point	320 days
4.9 Combat Support Services (CSS) Battalion	320 days
• BOQ “A” Type (1 each)	320 days
• BOQ “B” Type (1 each)	320 days
• Battalion HQ 800 SM	320 days
• Battalion Storage 800 SM	320 days
• Vehicle Maintenance Garage 800 SM	320 days
• POL Storage	320 days
• Solid Waste Collection Point	320 days
• CS/CSS Arms Storage Building	320 days
4.11 Medical Clinic	320 days
4.12 Central Receiving Warehouse	320 days
4.13 DPW Building 557SM	320 days
4.16 Flagpoles	320 days
4.21 Vehicle Refueling Point	320 days
4.24 Training Facility	320 days
4.26 Fire Station	320 days
4.27 Arms Storage Building BHC/GHC	320 days
• Arms Storage Building INFs	320 days
4.28 Anti-Vehicle Trench	320 days
4.29 Detention Facility	320 days
4.31 ETTC Laundry Facility	320 days

**Order of option items has nothing to do with priority of award.  
Options may be awarded UP TO 180 days after notice to proceed**

<b>Work Item</b>	<b>Completion Dates-Days from Award of Options</b>
4.10 Ammunition Supply Point (including access road) + ASP Tower – <b>OPTION 2</b>	210 days from award of option
4.14 Community Center (MWR) – <b>OPTION 3</b>	210 days from award of option
4.15 Helipad – <b>OPTION 4</b>	210 days from award of option
4.16 Brigade and Garrison Facilities (BHC/GHC): <b>OPTION 5</b>	210 days from award of option
• BHC Vehicle Maintenance Garage – <b>OPTION 6</b>	210 days from award of option
• BHC POL Storage – <b>OPTION 7</b>	210 days from award of option
• GHC Vehicle Maintenance Garage – <b>OPTION 8</b>	210 days from award of option
• GHC POL Storage – <b>OPTION 9</b>	210 days from award of option
• Solid Waste Collection Point – <b>OPTION 10</b>	210 days from award of option
4.17 Bachelor Officers Quarters (BOQ)	210 days from award of option
• BOQ for INF Battalion - Type A (1each) – <b>OPTION 11</b>	210 days from award of option
• BOQ for INF Battalion - Type B (1 each) – <b>OPTION 12</b>	210 days from award of option
• Infantry Barracks Type A (4 each) – <b>OPTION 13</b>	210 days from award of option
• Infantry Barracks Type B (5 each) – <b>OPTION 14</b>	210 days from award of option
4.19 Bunkers – <b>OPTION 15</b>	210 days from award of option
4.2 INF BN Vehicle Maintenance Garage – <b>OPTION 16</b> 800 SM	210 days from award of option
4.22 Pave of Access Road – <b>OPTION 17</b>	210 days from award of option
4.23 Pave of Road Network Phase I & Phase II – <b>OPTION 18</b>	210 days from award of option
4.27 Arms Storage Building INFs – <b>OPTION 19</b>	210 days from award of option
• Arms Storage Building BHC/GHC – <b>OPTION 20</b>	210 days from award of option
4.30 ANA Laundry Facility – <b>OPTION 21</b>	210 days from award of option

#### 4.1 MASTER PLANNING, SITE SPECIFIC SURVEYS, & SUBMITTALS

4.1.1 The total Kunduz site encompasses Phase I and II and is approximately 1000 meters X 900 meters see **Appendix A** for grid coordinates of de-mined area, and **Appendix B** site layout concept (in accordance with phase I Master plan the contractor will develop the actual layout to be most functional, logical, and engineering sound). This project includes Phase II only.

In the Master Site Plan the contractor shall include all locations of construction, office/storage, containers, lay down and construction debris removal area, and mobilization area. The Master Plan shall be provided from phase I.

The Phase I master plan includes but not limited to: General site grading and storm drainage system plan, physical site layout of roads, buildings, facilities, structures; utility plans of electric, water, and sewage systems; and location of construction supporting facilities and other temporary structures, and the siting for the facilities/features in this contract and those planned facilities/features listed above.

Phase II may require minor site master planning to include infrastructure (roads, sidewalks, parking, utility systems, etc.) design loads and construction shall be for two battalions, with an estimated population of 900 personnel. Master plan is provided as **Appendix B**.

#### 4.1.2 SITE SPECIFIC SURVEYS & SUBMITTALS

The Contractor shall perform a geotechnical investigation as defined in Section 01015, perform a topographic survey of the site; adapt the Phase I Master Site Plan to the conditions applicable for specific locations; prepare a complete grading and drainage plan with existing grades, proposed grades, and building finished floor elevations based on the technical requirements; prepare a landscaping plan; prepare a water distribution layout plan; and prepare a wastewater collection layout plan. If there is a requirement for on-site demolition, the Contractor shall prepare a demolition plan. The Contractor shall not locate facilities in wadis or dry river beds. The finish floor elevation of all facilities and slabs shall be per Phase I Master Plan, but not less than 150 mm above flood elevations or river banks, whichever is at the highest elevation. The contractor will provide drawings and details to describe all proposed designs and any adaptations to the standard designs provided. At a minimum, submittals shall include: the geotechnical investigation report; drawings, details and calculations associated with drawings, details and calculations associated with sanitary sewer. The schedule for delivery of site-specific submittals is included above at paragraph 3, Summary of Work/Contractor Requirements and paragraph 4.

#### 4.2 DEMOLITION AND GRADING

Minor site demolition may be required prior to construction of new work. Grading at the entire site [approximately](#) 1000 X 400 meters is required and shall conform to requirements within references herein.

#### 4.3 WATER SUPPLY

The Contractor is responsible to connect water supply for all facilities to be built in phase II to nearby water main furnished by Phase I construction.

#### 4.4 SANITARY SEWER

The Contractor is responsible to connect sewer outlet for all facilities to be built in phase II to nearby sewer main furnished by Phase I construction.

#### 4.5 ELECTRIC POWER , DISTRIBUTION, AND FUEL SYSTEM

##### 4.5.1 Power Supply:

The Contractor is responsible to construct all electrical distribution system and connect electric supply line for all facilities to be built in phase II to nearby substation furnished by Phase I construction.

##### 4.5.2 Power Generator and Fuel Tank

The contractor shall provide additional generators to be installed in the Main Power Plant with N+1 configuration in support of following facilities listed in Section 00010 of Base Items. The new generators shall compatible with the existing generators and be linked to existing synchronizer-switch, so that when total power demanded from one-generator reaches 90% of the generators maximum, an additional generator will automatically start and supplement the running generator, sharing the load between the generators equally.

The Contractor shall provide additional bulk fuel storage capacity based on 30 days full-load operation for the additional generators and their load requirements. Fuel Storage Tank design and installation shall be in complete compliance with NFPA, API and NEC codes.

#### 4.6 FORCE PROTECTION MEASURES

The Contractor shall design and construct force protection measures to include stone masonry walls, Alternate Entry Control Points (ECPs), guard towers, guard houses, illumination system, and communication systems. The designer shall incorporate force protection setbacks for new facilities to maximum extent possible as permitted by size of the site and the requirements of the user. Force protection design shall be in accordance with Joint Security Directorate Antiterrorism/Force Protection Guide, March 2002; UFC 4-010-01, Minimum DoD Antiterrorism Standards for Buildings; and UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings.

##### 4.6.1 Perimeter Wall

Base size is 1000 meters X 400 meters. Design and construct a Force Protection Perimeter stone masonry wall approximately 2,400 meters. Provide one (1) alternate gate minimum into compound; with guard towers at **275 meter** maximum intervals. Provide a Guard Tower at each opening in the perimeter (one each corner, and one at the alternate gate). See Section 01015 for additional Force Protection requirements.

Native stone masonry walls shall be constructed around the perimeter of the site. The height of the walls shall measure at least 2.5 meters from the inside and outside grades. The wall shall be topped with barbed wire outriggers and single-coil concertina style razor wire. The ground grade shall slope away from the wall for at least 5 meters and shall be kept a minimum of 2.5 meters below the top of wall for a minimum distance of 10 meters. The wall shall be designed to keep all pedestrian and truck traffic outside the compound from having a visual line of site into the compound.

##### 4.6.1.1 Gates

The gates shall be swing type gates of 3.65 m wide x 2.4 m high leafs, constructed of steel plates, steel tube frame, and steel tube intermediate posts and rails at the-wall. The design of the gates shall insure that it is dimensionally stable, square, true and planar. Gate leafs shall not rack or deflect when install on its hinges. Gates shall have a sufficient anchor mounted to the exterior masonry walls, to support each gate leaf. Provide a locking mechanism that holds the gates together when in the closed position as well as a drop bolt that engages a steel sleeve embedded in the pavement.

##### 4.6.2 Alternate Entry Control Point

The alternate ECP shall include a paved entrance, manually operated, sliding steel gate; a guard house; vehicle drop arm barriers; and passive anti-ram barriers placed in serpentine pattern to prevent high speed vehicle entry into compound. Provide a rejection lane after vehicle inspection and before entering the compound.

##### 4.6.3 Guard Towers

The Contractor shall design and construct guard towers at each inside corner of the force protection walls, at the main gate, and at the secondary gate. Guard towers shall be a minimum of 3m x 3m in size. The design drawings are provided as **Appendix T**. The guard tower shall be designed and located so that the outside of the perimeter wall can be observed from two sides of the tower windows. The floor height shall be elevated as to allow the window sill to be 0.5m above the top of the wall. The guard tower shall be constructed of CMU walls with a metal door and horizontal sliding windows with metal window frame, 1400mm high x 1200mm wide. Glazing for the windows shall be a 16mm thick laminated glass. Windows shall be located on all 4 sides to provide a 360 degree viewing area. Windows shall not be screened. The guard tower must meet force protection requirements. The tower shall be supported on reinforced concrete footings. Footings shall be located below the frost line or a minimum of 800 mm, whichever is greater.

The roof shall have a gutter and downspout system to evacuate rain accumulation. The down spout shall run the entire height of the tower and drain at the finished ground level to a splash block. Entry to the tower shall be through a lockable security door. Guard Tower shall have heating-using split pack heat pump units. Guard towers shall be provided with general lighting and shall be fitted with one 360-degree omni-directional searchlight.

One weather-resistant duplex receptacle shall be provided as required for general use. The area in the immediate exterior vicinity of the guard tower shall be provided with an all weather non-slip surface and shall be graded to sufficiently drain away from structure. Provide gutters and downspouts or slope the roof away from the guard house entry way and stairs.

Illuminate the exterior of the compound. Position lights to provide overlapping coverage and to avoid illuminating guard positions. Do not use white lights inside guard towers. Use red, blue, or black lenses in interior guard tower lighting.

For communications, provide rigid metal conduit, two RJ-45 phone jacks with Category 5e, four pair UTP cable back to a protected entrance terminal in the telephone terminal cabinet.

Force Protection measures also include the requirements of UFC 4-010-01, Design: Minimum DoD Antiterrorism Standards for Buildings, 8 Oct 2003 and UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings, 8 Oct 2003 and Joint Security Directorate Antiterrorism/Force Protection Guide, March 2002 [or most recent that is applicable](#).

Searchlights shall be provided as indicated and shall be equivalent to the following:

- Prison Grade
- Nickel reflectors (bullet resistant)
- 65 million candlepower (1000 watts)
- Manual operation from below with one hand
- zenon lamp
- weatherproof design

#### 4.7 ROAD NETWORK AND SIDEWALKS

The Contractor shall design the entire road and parking network per the Phase I Master Plan. The roads shall be designed to carry traffic of a 7 ton three-axle vehicle. An adequate storm drainage system shall also be included. The road layout shall provide access to entry control points, buildings, parking lots, fuel points, generator yard, domestic water and wastewater treatment plant facilities, solid waste collection points and shall be interconnected with Phase I road network for a ultimate circulation plan of the Compound (Phase I & II). Road design shall be designed per Section 01015, Technical Requirements. Roadways and sidewalks are required as shown on attached drawings and shall be designed and constructed based upon recommendations from geotechnical analysis as required herein. The Contractor shall construct the entire road and parking network **with compacted aggregate gravel** to minimize loss of surface material. The pavement for the road network shall be an optional bid item.

All roads sections shall have 200 mm (8 inch) compacted base course minimum and shall be have a aggregate wearing surface 7.3 meters (24 feet) wide, unless otherwise noted, graded for proper drainage, provided with necessary drainage structures and completed with prescribed surfaces in accordance with applicable sections of TM 5-822-2 and TM 5-822-5 standards.

The Contractor shall design and provide landscaping for the compound. Design and provide a network of concrete sidewalks to connect the buildings. Sidewalks shall be wide enough to be used as fire-lane/ service roads. Road design and construction shall include road signage, using international symbols for speed, curves, slow, and stop signs. Road construction shall include the installation of all required drainage structures. Provide outdoor benches, lighting, and gathering areas.

#### | 4.8 COMBAT SUPPORT (CS) BATTALION

Design and construct a Combat Support Battalion capable of supporting 496 personnel. (49) Officers will Billet at the BOQ). Complex shall consist of the following buildings: 3 - "A" Type Barracks; 5 - "B" Type Barracks; 1- Toilet/Shower Building; 1- Battalion Headquarters Building; w/Toilets; 1- Arms Storage Building; 1- Battalion Storage Building; 1 – Vehicle Maintenance Building; 1- POL Storage Building; 1- Solid Waste Collection Point. See Appendixes for schematic drawings.

The barracks, toilet/shower building, and battalion HQs building shall be provided with evaporative cooling unit with ceiling fan with diesel heat and fuel storage. Command Centers inside Battalion HQ shall be provided with split-pack heat pumps. Additional Barracks, Battalion HQ, Toilet/Shower/Laundry Building, and Battalion Storage Building criterion is provided in paragraphs 5.1, 5.2, 5.3, and 5.4 of this section.

#### 4.9 COMBAT SERVICE SUPPORT (CSS) BATTALION

Design and construct a Combat Services Support Battalion capable of supporting 352 personnel. (43 Officers will Billet at the BOQ). Complex shall consist of the following buildings: 2 - "A" Type Barracks; 5 - "B" Type Barracks; 1- Toilet/Shower Building; 1- Battalion Headquarters Building; w/Toilets; 1- Arms Storage Building; 1- Battalion Storage Building; 1 – Vehicle maintenance building; 1- POL Storage Building; 1- Solid Waste Collection Point. See Appendixes for schematic drawings.

#### 4.10 AMMUNITION SUPPLY POINT (including access road)

Design and construct an Ammunition Supply Point for an ANA Infantry Brigade. Facility shall have two 187 square meters (7.62 meters (25 feet) by 24.5 meters (80 feet)] Munitions Storage Igloo Type A, per Army Standard Magazine STO 33 15 74. The ASP shall be located away from the Garrison behind the exist hill, and will consequently require a perimeter fence with concertina wire and security lighting, The contractor shall demine the area outside the existing 1100x1100 demined area. See **APPENDIX Y** for ASP Igloo details.

##### 4.10.1 HESCO PERIMETER WALLS

The contractor shall construct HESCO barrier walls as the perimeter of the ASP with total length of 420 meters to form an area of 120 x 150 meter on three sides. All Hesco barrier walls shall consist of a bottom layer of Hesco Military 8G bins (2 rows), topped by a second layer consisting of a single row of 4G Hesco barriers which in turn topped by concertina wire. The ACP area enclosed by the outer Hesco units shall be provided with 6 inches of compacted gravel. Contractor shall ensure that there are no gapped areas along finished walls. The rest area of ASP shall be fenced with stone walls which are accounted as part of perimeter of the garrison and contractor shall ensure that the dimensions of total LEVELED ASP Area are about 120 x 200 meter excluding hilly terrain. The hill is used as natural safe barrier between the garrison and the ASP.

##### 4.10.2 Main Entry Control Point (ECP)

The ASP shall be accessed from the Garrison entry points and at the north edge of the hill has its own Main Entry Control Point. The contractor shall design and construct a Main Entry Control Point and immediate area shall be lighted. Provide a 6 m<sup>2</sup> Guard House that will be provided for 2 guards within entry control point with phone collection. Area outside vicinity of guard house shall be provided with an all weather non-slip surface and shall be graded to sufficiently drain away from building and pedestrian areas. Building shall be constructed with a concrete slab with foundation below a frost line. Windows shall be made of plexiglass at least 8 mm thick and should be capable of opening and closing by sliding on tracks. One electrical outlet shall be installed in the guard house. The Guard House shall have one split type minimum 18,000 BTU cooling/heating unit. Security lighting shall be provided outside the guard house to illuminate the immediate vicinity.

##### 4.10.3 OFFICE BUILDING

The Contractor shall design and construct an Office Building inside the ASP near ECP for a place to store records. The Office Building shall have 38 m<sup>2</sup> with toilet room of two toilets and sinks, a office, and a

record room. Electrical outlets shall be installed in the building and with 4 pairs of data and phone outlets. The building shall have two split type minimum 18,000 BTU cooling/heating units on opposite sides of the building. There shall be a minimum of four windows in the building.

#### 4.10.4 LIGHTNING PROTECTION

The contractor shall provide a complete Lightning Protection System for the Ammunition Supply Points (ASP) in accordance with Section 01015, Technical Requirements and ATFP criteria.

#### 4.10.5 DESIGN AND CONSTRUCT LIGHTING AND ELECTRICAL SYSTEM

Two exterior flood style light fixtures shall be installed, one at far end corner of the ASP. Minimum wire gauge for lighting will be 3 x 4 mm<sup>2</sup>. Each light will be placed at the top of a light pole facing outward. The lighting will be controlled by a photocell and provided with a master control override switch located at the ASP. One additional light shall be located at the front gate and one at the opposite end directly center between the corners made of the same type facing outward. Additional perimeter lighting necessary to provide sufficient illumination of the surrounding area for security will be designed as required. Searchlights at guard towers shall be provided as indicated and shall have the following: - prison grade - nickel reflectors (bullet resistant) - 65 million candlepower (1000 watts) - manual operation from below with one hand - zenon lamp - weatherproof design

#### 4.10.6 ASP Guard Tower

The ASP Guard Tower shall be provided in a position and of sufficient height to view entire facility and surrounding area. Construction of guard tower shall be 200 mm reinforced concrete. Guard tower shall be provided with general lighting and shall be fitted with a 360-degree omni-directional searchlight. Provide built-in counter with 2 file drawers and 1 pencil drawer. Duplex receptacles shall be provided as required for general use. Provide red lights inside the guard tower to maintain night vision. Access will be by stairs. Area immediately outside the vicinity of guard hut shall be provided with an all-weather non-slip surface and shall be graded to sufficiently drain away from the building. Building shall have a concrete slab with a foundation below the frost line. Facility shall be provided with general illumination, and Communication/Data and duplex receptacles. Provide wiring to Communication Building thru a loop to all towers and guard house with a redundant feed to Communication Building. Provide a minimum of two comm. jacks to each tower. Facility shall be provided with general lighting. Provide remote lever controlled 45 million candlepower 500 watt prison grade search light roof mounted on guard tower roof. Provide built in counter with 2 file drawers and pencil drawers (see comment above). Windows shall be 13 mm laminated glass in heavy duty steel frames that open out and up. Provide arm on each side to lock in open position and provide cam latch to lock window in closed position. Provide seals on doors and windows to make dust tight. Provide grate for boot cleaning. Entry doors to be bullet-resistant. Provide Split Pack Heat Pump Unit for temperature comfort. Provide gutters and downspouts or slope the roof away from the guard house entry way and stairs.

Guard tower shall be a minimum of 3m x 3m in size. The guard tower shall be designed and located so that the outside of the perimeter wall can be observed from two sides of the tower windows. The floor height shall be elevated as to allow the window sill to be 0.5m above the top of the wall.

One weather-resistant duplex receptacle shall be provided as required for general use. The area in the immediate exterior vicinity of the guard tower shall be provided with an all weather non-slip surface and shall be graded to sufficiently drain away from structure. Provide gutters and downspouts or slope the roof away from the guard house entry way and stairs.

For communications, provide rigid metal conduit, two RJ-45 phone jacks with Category 5e, four pair UTP cable back to a protected entrance terminal in the telephone terminal cabinet.

Force Protection measures also include the requirements of UFC 4-010-01, Design: Minimum DoD Antiterrorism Standards for Buildings, 8 Oct 2003 and UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings, 8 Oct 2003 and Joint Security Directorate Antiterrorism/Force Protection Guide, March 2002.

Searchlights shall be provided as indicated and shall be equivalent to the following:

- Prison Grade
- Nickel reflectors (bullet resistant)
- 45 million candlepower (500 watts)
- Manual operation from below with one hand
- Xenon lamp
- weatherproof design

#### 4.11 MEDICAL CLINIC

Design and construct an approximately 900m<sup>2</sup> medical clinic with similar layout per Appendices. Clinic shall provide the following: Examination rooms, X-ray room, Film room, Eye exam, Orthopedic, Dental, Dental lab, Pharmacy, Medical records, Administration, Lobby/waiting, Conference, Offices, Electrical room, Medical storage, Emergency room, Laboratory, Toilets, Showers, Patient rooms, Patient Bay, Break room, Janitor closet with a mop sink and Storage area. All floors in building shall be finished with seamless vinyl sheet with continuous floor-to-wall baseboard or material of equivalent and better quality, except utility-type rooms or as required by UFC-4-510-01. The structure will have a central ducted forced air HVAC system for the entire building. Medical clinic shall be constructed to the standards specified in UFC 4-510-01: Military Medical Facilities. In addition, provide four (4) covered ambulance parking spaces using prefabricated metal building.

- 1) Floor plan requires the approval of the Contracting Officer
- 2) Emergency lighting with battery back-up in all halls and critical areas.
- 3) All walls shall be painted with one (1) coat of lead free primer and two (2) coats of lead free paint. Color to be approved by CO.
- 4) Floors shall be finished with seamless vinyl sheet. All bathrooms, toilet facilities and showers shall be ceramic tile floors and walls. Other equipment/utility rooms sealed concrete.
- 5) Single and double interior doors (with the exception of the operating room) shall be wood on steel or wood frames. All doors shall be one (1) coat of lead free primer and finished with two (2) coats of gloss lead free paint. All doors shall be equipped with lever action locksets and closers. All operating room doors shall be smooth stainless steel on stainless steel frames. Each operating room door will be equipped with 20 CM diameter windows in each double door, rubber seals, and floor sweeps. All double doors shall be dual action.
- 6) Window frames and sash (with 5mm single glazing) shall be aluminum or PVC complete with sliding sash with insect screens.
- 7) The main entrance and other exterior doors shall be power operated double sliding aluminum doors, mil finish, complete with side lights. All single exit doors shall be metal doors and jambs complete with panic hardware for emergency exit. All doors shall be primed one (1) coat and finished with two (2) coats of metal enamel paint.
- 8) Environmental control of the Hospital facility shall be achieved by HVAC equipment proposed by the contractor and approved by the US Government. The contractor will provide heating/cooling load calculations to ensure proper sizing of the air conditioning unit(s). Once installed, the contractor will conduct TAB on all HVAC systems.
- 9) Provide and install electrical receptacles no more than three (3) meters apart on all interior walls and one receptacle outside each exterior door.
- 10) Install exterior lighting on 4 corners of the building and at each entrance and exit. All exterior lighting will be electronically controlled by photocells.
- 11) Provide and install interior fluorescent light fixtures, minimum of 40 watts. The fixtures shall be 1-meter long, two-bulb fixtures. Minimum lighting is one fixture for every 12 square meters of floor space.
- 12) Provide circuits to support X-Ray equipment: One (1) each 440/50 35A wire from main panel to junction box in X-Ray Room, and one (1) each 440/50 100A wire from main panel to junction box in X-Ray Room.
- 13) Contractor shall design a communications system to include, phones, intercoms, speakers, and connection for computers.

- 14) Need sinks and/or floor drains in Dental room, exam rooms, lab, toilet and shower rooms, small surgery and procedure room, operating rooms, Hot and cold water at all sinks.
- 15) Need a water supply, supporting brackets for the Tube Head assembly, and enough power to operate the equipment in the emergency room.
- 16) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 17) Design and construct a 900m<sup>2</sup> medical clinic with similar layout per **Appendix C**.

#### 4.11.1 INCINERATOR

Design and construct an Incinerator adjacent to medical clinic install downwind of clinic on a concrete foundation. Include UFGS Specification Section 118221 for Incinerator Medical Waste in Specification. Incinerator shall be designed, constructed and installed per this standard and specification. Include in Specifications and Design Analysis.

#### 4.12 CENTRAL RECEIVING WAREHOUSE

Design and construct a Central Receiving Warehouse (1,520 m<sup>2</sup>). Designs shall be for open bay facilities shown in Appendices.

- 1) Provide power outlets no more than 4 m apart in the walls.
- 2) Wall mounted electric forced air AC unit shall be used to maintain a minimum temperature of 18 degree Celsius during winter and 30 degree Celsius during Summer in the office .
- 3) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 4) Provide two 5 meter X 5 meter high roll-up doors. Provide two bollards at each roll-up door jamb.
- 5) The floor is smooth concrete finished with gray colored floor paint.
- 6) Provide 4 pair of RJ45 outlets (for telephone and data) in the building with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 7) See **Appendix E** for layout

#### 4.13 DPW SHOP BUILDING

Supplement existing design as required and construct a DPW Shop Building 486 m<sup>2</sup>.

Building shall have offices, toilet, break room, conference room, and shop with double roll up doors. The building will have Diesel Heat w/Evaporative Cooling and fuel storage and fuel storage. Reference plan of this building is in Appendices.

- 1) At least one power outlets every 3 m.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) AC unit shall be used to maintain a minimum temperature of 18 degree Celsius during winter and 30 degree Celsius during summer.
- 4) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 5) The floor is smooth concrete finished with gray colored floor paint.
- 6) Provide adequate exterior area for window with double insulated glass glazing for light and ventilation.
- 7) Provide RJ45 outlets (for telephone and data) in offices at each power outlets with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 8) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 m above floor, and with paint of gross water-resistant finish for rest walls and ceilings. See **Appendix F** for layout.

#### 4.14 COMMUNITY CENTER - MORAL WELFARE RECREATION BUILDING (MWR)

ANA MWR floor plan is attached as Appendices The Contractor shall incorporate the following features into the ANA MWR:

- 1) Provide power outlets in walls no more than 4 m apart.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) The building will have Diesel Heat w/Evaporative Cooling with fuel storage to maintain comfort in winter and summer.
- 4) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 5) Select the optimal construction method proved to be economic, durable, and fast-erecting.
- 6) The floor is smooth concrete finished with gray colored floor paint, walls and ceilings flat paint finish.
- 7) Provide adequate exterior area for window with double insulated glass glazing for natural light and ventilation.
- 8) Provide two pair of RJ45 outlets (for telephone and data) in the building with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 9) Toilet rooms shall be finished with ceramic tile for floor and wall areas 2m above floor, and with paint of gross water-resistant finish for rest walls and ceilings.
- 10) See **Appendix J** for layout.

#### 4.15 HELIPAD

Design and construct a helipad for heavy lift helicopters (as large as CH-47 Chinook) to include all site preparation and electrical work for lightings. The helipad shall be sited in accordance with safe minimum distances from all structures, and shall have an asphalt access road to the helipad. The helipad will be of standard Visual Flight Rules (VFR) with a 30m by 30m dimension in accordance with MIL-HDBK- 1021/1 Airfield Geometric Design.

Must have a minimum of Landing and Lift-off Area (LLA) diameter of 15 m, minimum Final Approach and Take-off Area (FATO) diameter of 30 m, and minimum safety area diameter of 60 m. Provide all design, labor, materials, and equipment for 30m x 30m reinforced concrete landing pad 200mm thick, with #12 deformed reinforcement bar, 200mm aggregate base course select materials, and 300mm subbase course select materials. Site planning shall be done in order to meet obstacle clearance design requirement.

Electrical work will include, but not limited to: helipad lighting system which includes flood lighting with retro-reflective markings and ground level lighting to identify the edge of the LLA and FATO. Adjust the center of the helipad as necessary to fit on the site for all the required lightings.

#### 4.16 BRIGADE AND GARRISON HEADQUARTERS COMPLEX (BHC/GHC)

Design and construct a combined Brigade & Garrison HQ. Capable of supporting 351 personnel. (93 Officers will Billet at the BOQ). Complex shall consist of the following buildings: 1 - "A" Type Barracks; 2 - "B" Type Barracks; 1- Toilet/Shower Building; 1- Brigade Headquarters Building w/toilets (552 m<sup>2</sup>); 1- Garrison Headquarters Building, w/toilets 990 m<sup>2</sup> ; 1- Arms Storage Building; 1- BHC POL Storage Building; 1- GHC POL Storage Building; 1- Maintenance Garage (1395 m<sup>2</sup>); 1- Solid Waste Collection Point; 6-Flagpoles. This will be finalized at the Charette. The barracks, toilet/shower building, and battalion HQs building shall be provided with evaporative cooling unit with ceiling fans with diesel heat and fuel storage. Command Centers inside Garrison HQ shall be provided with split-pack heat pumps.

##### 4.16.1 GARRISON HEADQUARTERS

The Garrison HQ building floor plan is attached as **Appendix P**. The Contractor shall incorporate the following features into the design and construction of the building:

- 1) Provide power outlets in walls no more than 3 m apart.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) Building shall be provided with evaporative cooling and ceiling fans with diesel heat and fuel storage to maintain comfort in winter and summer.
- 4) Maintain a building envelop of R-13 wall insulation, R-30 roof insulation, double insulated windows, and insulated metal doors.
- 5) Select the optimal construction method proved to be economic, durable, and fast-erecting.
- 6) The floor in the building shall be 300mmX300mm terrazzo tile. Walls and ceilings flat paint finish.
- 7) Provide adequate exterior area for window with double insulated glass glazing for natural light and ventilation.
- 8) Provide two pair of RJ45 outlets (for telephone and data) in each room with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 9) Toilet rooms shall be finished with ceramic tile for floor and wall areas 2m above floor, and with paint of gross water-resistant finish for rest walls and ceilings.

Construct one Garrison Headquarters in accordance with the enclosed floor plan. Garrison Headquarters to be co-located with optional Brigade Headquarters identified in paragraph 4.16. 2

#### 4.16.2 BRIGADE HEADQUARTERS

The Brigade HQ building floor plan is attached as **Appendix O**. The Contractor shall incorporate the following features into the design and construction of the building:

- 1) Provide power outlets in walls no more than 3 m apart.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) Building shall be provided with evaporative cooling and ceiling fans with diesel heat and fuel storage to maintain comfort in winter and summer.
- 4) Maintain a building envelop of R-13 wall insulation, R-30 roof insulation, double insulated windows, and insulated metal doors.
- 5) Select the optimal construction method proved to be economic, durable, and fast-erecting.
- 6) The floor in the building shall be 300mmX300mm terrazzo tile. Walls and ceilings flat paint finish.
- 7) Provide adequate exterior area for window with double insulated glass glazing for natural light and ventilation.
- 8) Provide one pair of RJ45 outlets (for telephone and data) near each power outlet with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 9) Toilet rooms shall be finished with ceramic tile for floor and wall areas 2 meters above floor, and paint of gross water-resistant finish for rest walls and ceilings.

The following space requirements shall apply to the Brigade Headquarters Building:

Type of Space	Quantity	Area( m <sup>2</sup> )	Total( m <sup>2</sup> )
Open Office Spaces	N/A	351	351
Private Office	2	10	20
Private Office	7	14	98
Private Office	1	15	15
Private Office	1	28	28
Conference Room	1	40	40
Total Office Space			552

#### 4.17 BACHELOR OFFICERS QUARTERS – BOQ BUILDINGS

##### 4.17.1 BOQ TYPE B

The Contractor shall design and construct Type B BOQs as shown in **Appendix M**.

The Contractor shall incorporate the following features into the BOQ:

- 1) As an alternative all BOQs shall be constructed of reinforced insulated concrete plastered walls, with metal roofs. The Contractor could select the optimal construction method proved to be economic, durable, and fast-erecting.
- 2) Provide housing for the officers with shared toilets, the shared toilets shall be grouped in one area on the corridor shall be constructed with a toilet/shower/sink.
- 3) Provide evaporative cooling unit with ceiling fans with diesel heat and fuel storage to maintain comfort in winter and summer.
- 4) Senior officer BOQ shall be provided with split-pack heat pumps for year-round comfort.
- 5) Provide 4 power outlets in each room.
- 6) Concrete stoops shall be provided at all exterior doors.
- 7) Maintain a building envelop of R-13 wall insulation, R-30 roof insulation, double insulated windows, and insulated metal doors.
- 8) The floor is smooth terrazzo tile. Walls and ceilings flat paint finish.
- 9) Provide adequate exterior area for window with double insulated glass glazing for light and ventilation.
- 10) Provide 4 pair of RJ45 outlets (for telephone and data) in the building with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 11) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 meters above floor, and with paint of gross water-resistant finish for rest walls and ceilings.

	for INF / CS / CSS / BHC / GHC Battalion	or INF / CS / CSS / BHC / GHC Battalion	or INF / CS / CSS / BHC / GHC Battalion
Rank	O2-O3	O4-O5	O6-O7

Occupancy	Double	Single	One bedroom Apartments with living room
Toilet/Shower Sink Ratio/Ablution	7:1	4:1	1:1

Note: O2-O5 officers will be housed in Type B BOQs.

#### 4.17.2 BOQ TYPE A

The Contractor shall design and construct Type A BOQ as shown in **Appendix N**.

The Contractor shall incorporate the following features into the BOQ:

- 1) Provide 4 power outlets in each suite.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) Maintain a building envelop of R-13 wall insulation, R-30 roof insulation, double insulated windows, and insulated metal doors.
- 4) As an alternative all BOQs shall be constructed of reinforced insulated concrete plastered walls, with metal roofs. The Contractor could select the optimal construction method proved to be economic, durable, and fast-erecting.
- 5) Barracks should be provided with evaporative cooling and ceiling fans with diesel heat and fuel storage to maintain comfort in winter and summer. The floor in living space is smooth terrazzo tile. Walls and ceilings flat paint finish
- 6) Provide adequate exterior area for window with double insulated glass glazing for light and ventilation.
- 7) Provide one pair of RJ45 outlets (for telephone and data) in each suite with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 8) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 meters above floor, and with paint of gross water-resistant finish for rest walls and ceilings.

#### 4.18 COMMUNICATIONS BUILDING AND DISTRIBUTION SYSTEM

The Communication Building floor plan is attached as **Appendix Q**.

The facility will serve as the installation's center for telecommunications, switching, and automation networking (including internet service) and shall have year-round climate control in all rooms for the sensitive electronic equipment. A communication building shall have an uninterruptible power supply (UPS) room with ventilation to outdoors. Power to the building shall meet the ultimate demand load plus 20% spare capacity, but shall not be less than a 250 amp service. A grounding grid tested to 5 ohms or less shall be distributed throughout the UPS and equipment rooms.

Provide a communications room having raceways/duct backs going to each facility requiring communications; those to be used in the future will have a pull sting. Manhole/hand hole systems shall have no more than 150 meters between access points. All voice telephone wiring, data and emergency wiring, including any planned or future fiber optical runs, will originate and/or terminate in this communications center.

Provide a 3m x 5m roof covered concrete pad outside the UPS room with a backup generator with an adjacent 2m x 3m concrete pad with a spill dike for a 500 gallon or larger fuel tank. Backup generator shall be sized to meet the ultimate demand load of the communications building, plus 20% spare capacity. A 15cm diameter or larger conduit shall connect the generator pad to the UPS room and shall use long sweep elbows totaling no more than 180 degrees for any bends. Backup generator for Communications building shall be in addition to the generator required in paragraph 4.5 above. When sizing the generator, ensure it is de-rated for altitude and temperature in accordance with manufacturer's recommendations for the site conditions

All buildings (except guard houses and towers) shall have a communication room to house all telephone and computer network equipment. All Barracks shall have cable in accordance with section 1015. Each office will have at least two phone outlets using category 5e, RJ-45 outlets or better and at least two outlets for computer connections, There shall be a 25-pair 24 AWG copper UTP cable ringing the base perimeter to connect all guard towers and houses with redundant paths so that communications are maintained even if a cable is cut. Outside plant building telephone and data cabling shall be RUS PE89 24AWG, Gel filled, and RUS type PE 90, Single mode fiber optic cable. Inside plant cable and termination hardware shall be at minimum category 5e.

In any communication related office or room required raised flooring, IF used, the raised flooring shall be all steel interchangeable square panels 600mm X 600 mm, with 450 mm clear space below finish floor. Assembly shall be designed for the highest earthquake zone. Design shall be bolted stringer capable of withstanding a 12,500 lb. uniform load and a 500 lb. rolling load. Provide Four (4) panel lifting devices. Provide bonded anti-static raised floor assembly and flooring.

Electrical service to the building shall be underground.

Provide voice and NIPR Net LAN drops (category 5e RJ-45 dual voice/data) in each of the living areas for all barracks and all offices in the buildings.

#### 4.19 BUNKERS

Provide Concrete Personnel Bunkers though out compound; with seating for 900 persons. Site and grade so water cannot stand inside bunkers. Provide 150 mm base course of gravel under sandbags.

#### | 4.20 MOTOR POOL PARKING AREAS (NOT USED)

The following minimum space requirements shall apply to the motor pool parking areas:

Infantry Battalion Motor Pools	2,000 m <sup>2</sup>
CSS Company Motor Pool	1,000 m <sup>2</sup>
CS Company Motor Pool	1,000 m <sup>2</sup>
BHC Garrison Motor Pool	1,500 m <sup>2</sup>
GHC Brigade Motor Pool	1,500 m <sup>2</sup>

The Contractor shall design and construct a motor pool and unit vehicle parking area to accommodate 26 SUV's and eight motorcycles. Provide a yard hydrant, electrical power, lighting, and compressed air service. Provide gravel surfaced parking areas.

- a. After leveling, grading, and compacting the holding yard, the contractor shall overlay the entire graded area with 15cm of compacted 25mm gravel/crush stone.
- b. Construct 2.4 meter high chain link fence with barbed wire and vehicle gates surrounding the vehicle holding yard. The contractor shall install barbed wire on supporting arms above the fence posts.

- c. Construct entry control points each consisting of a vehicle gate and a pedestrian gate. Extend each end member of the gate frames sufficiently above the top member to carry three strands of barbed wire in horizontal alignment.
- d. A proper drainage plan shall be incorporated into the maintenance building and exterior concrete finish which shall both slope away from the facility. There shall be a sub-base course installed and compacted to 95% compaction prior to pouring any concrete.

#### 4.21 VEHICLE MAINTENANCE FACILITIES

The Vehicle Maintenance facilities open areas will be heated by forced-air diesel-fired furnaces; and cooling by an integral evaporative-cooler Offices spaces shall have split unit HVAC heat pumps with both heating and cooling and 52-inch ceiling fans.

The following requirements shall apply to the vehicle maintenance facilities:

a. Garrison, CS, and CSS Company Maintenance Building, Provide dutch doors at all tool rooms with lock for both halves. Provide Diesel Heat w/Evaporative cooling each building. Brigade Motor Pool, and Garrison Motor Pool – Each Motor Pool shall have a small 5 m x 5 m building with two separate rooms for storage of vehicle fluids and tools. Provide two bollards at each roll-up door jamb. All floors in building shall be sealed concrete.

b. Maintenance Garage – 1,395 m<sup>2</sup> Maintenance Garages shall be provided at the Garrison area. These garages shall contain 9 drive-through maintenance bays with overhead doors (5mx4m) at both ends of each bay as well as 5 meter concrete apron. The maintenance buildings shall have storage areas, office areas and tool rooms. Provide pits w/steps in 2 bays, on each side. They will have a 2-ton crane on all maintenance bays. One each welding hood tailpipe CO exhaust system with hose reel and waste oil collection system to be provided for each of the two sides of the maintenance garage.

The **CS**, **CSS**, and **INF** Company Maintenance Building shall be a similar floor plan with a reduced building size - 800 m<sup>2</sup>. CS and CSS Maintenance garage will have 3 drive-through maintenance bays with one two ton crane. Provide pits w/steps. Maintenance garages shall include exhausted battery storage/maintenance rooms in the garage. Provide two bollards at each roll-up door jamb. Reference the drawings attached.

- e. c. POL storage buildings, minimum size 25 m<sup>2</sup>. Each POL storage building shall have two rooms. Provide a POL storage building according to **Appendix R**.
- f. The contractor shall construct one three bay vehicle maintenance facility with plan provided by **Appendix R**. Ground slab for garage shall be design to support seven ton vehicles and not less than 300mm thick. All concrete shall be reinforced with steel rebar. Provide garage doors measuring at least 4.5 meter in height and 3 meter in width.
- g. A proper drainage plan shall be incorporated into the maintenance building and exterior concrete finish which shall both slope away from the facility. There shall be a sub-base course installed and compacted to 95% compaction prior to pouring any concrete.
- h. Provide at least one pair of RJ45 outlets (for telephone and data) at each power outlet location in offices, with wires connected to one central location in the building convenient for service connection. Provide a toilet, a sink and a shower unit inside the building.
- i. Provide HVAC split unit to the office and toilet room.
- j. The maintenance building shall be located at least 10m away from the POL storage building.

- k. Provide two bollards located at each side of the entrances to the rollup door.
- l. Preferred building type is pre-engineered metal assembly.
- m. A maintenance pit shall be provided with steps into the pit. The Pit shall not be more than 100mm in width and to have concrete safety curbs.
- n. Provide an exhaust fan system for maintenance bay to provide adequate ventilation for vehicle exhaustive fume.

4.22 VEHICLE REFUELING POINT –The Contractor shall provide for a total capacity of 40,000 liters of diesel storage and 10,000 liters of MOGAS storage; complete with concrete containment floor and walls, power, and dispensing pumps.

The Contractor shall design and construct a low profile vehicle re-fueling point, as specified in Section 01015, capable of storing 40,000 liters of diesel and 10,000 liters of MOGAS. The fuel point shall consist of one 25,000 liters tank of diesel and another dual compartment 25,000 liter tank, of which, 15,000 liter would be used for diesel and 10,000 liters would be used for MOGAS. The tank systems shall be a pre-engineered fully assembled fuel storage package. Provide reinforced concrete pad suite for this application. Additional Vehicle re-fueling criteria is as follows:

- The fueling area shall have a metal roof awning covering it;
- Fuel point facility shall be enclosed by a chain link fence, with two 7.3m wide lockable vehicle gates (Entry and exit gates for use by large trucks).
- An 8.6 SM building shall be used by the operator and located near the exit gate of the Fuel Point Facility.
- The Fuel Point Facility shall be paved with a compacted crushed aggregate surface sloped for proper drainage;
- Reinforced concrete slab adjacent to the fueling point, where vehicles can park while fueling, with a minimum 1% slope in three directions and 150mm curb along the slab on the sloped side to contain fuel spills;
- Reinforced concrete slab where tanks will be placed to suite this application.
- Bollards to protect the tanks from vehicles;
- Provide electrical service to the tank units as per the manufacturer's recommendations;
- The Fuel Tanks and Fueling Dispensers shall be approved by the Contracting Officer. The tanks shall be equipped with all standard items with the following items:
  - 1) Flameshield (Dual wall fire rated tank) tank option;
  - 2) The system shall include two diesel dispensers with dual hoses and one gasoline dispenser with dual hoses;
  - 3) One of the two tanks shall be a dual compartment tank;
  - 4) All tanks shall be factory pre-wired; meeting UL Standards 142 and 2085, and UFC Appendix IIF, Ballistic Protection; Internal tank lining.
  - 5) The pump package shall be submersible pump, grounding, and overflow protection,
  - 6) The pump package shall be Model 9853AXTW-1 or equal
  - 7) Low mount fill with containment
  - 8) Leak monitor
  - 9) Overfill prevention valve
  - 10) Emergency venting, pressure relieving device and atmospheric venting

The Contractor shall design and construct the 8.6sm fuel point facility building. The building shall consist of reinforced concrete foundation and floor slab; reinforced concrete masonry walls; a steel-framed sloping roof; metal door; and three horizontal sliding windows, with one facing the fueling point and one on each perpendicular wall. The building shall have heating and cooling and lighting with split pack units

that shall be able to maintain 21.1 degrees Celsius in the heating season and 23.9 degrees Celsius in the cooling season.

#### 4.23 PAVE - ENTRANCE ROAD & SITE NETWORK ROADS

Paved roads optional design and construction are required within the base camp area. All roads shall be of hot mix flexible asphalt concrete wearing surface 7.3 meters (24 feet) wide, unless otherwise noted, graded for proper drainage completed with prescribed surfaces in accordance with applicable sections of TM 5-822-2 and TM 5-822-5 standards. The compound (cantonment area) roads sections shall have 200 mm (8 inch) compacted base course minimum and shall be surfaced wearing course with a minimum 100 mm (4 inch) hot mix asphalt concrete, unless otherwise noted. The Contracting Officer shall be immediately notified if the required lengths of paved road or preexisting conditions are determined to be substantially or materially different than the above-described conditions/estimates.

The asphalt pavement surface shall have a smooth transition to any existing and proposed concrete culvert with and asphalt pavement surface constructed on top of the concrete.

The item for paving access road is to pave the entire 5 KM access road with asphalt.

The item for paving the roads in the Camp includes: Asphalt paving for all vehicle access roads and parking spaces, and concrete paving for all sidewalks and walkways.

#### 4.24 TRAINING FACILITY

Design and construct a 1,202 m<sup>2</sup> Training Building. Training Building shall have an auditorium/Gymnasium. Four (4) offices (10 m<sup>2</sup> each) shall be provided. Provide 11 Eastern style toilets and 6 sink troughs together with a janitor room with a mop sink, all toilets shall face north/south. Building shall be heated and cooled using Diesel Heat w/Evaporative Cooling and minimum 52-inch ceiling fans and fuel storage. Building shall have 3.6-meter high unobstructed ceiling space.

- 1) At least one power outlets every 4 m.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) AC unit shall be used to maintain a minimum temperature of 18 degree Celsius during winter and 30 degree Celsius during summer for the entire space.
- 4) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 5) The floor is smooth concrete finished with gray colored floor paint.
- 6) Provide adequate exterior area for window with double insulated glass glazing for light and ventilation.
- 7) Provide RJ45 outlets (for telephone and data) in offices at each power outlets with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 8) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 m above floor, and with paint of gross water-resistant finish for rest walls and ceilings.
- 9) Provide 60 meter interior removable sound proof partitions to divide the entire open space into 5 smaller spaces.
- 10) Reconfigure **Appendix D** Floor Plan, turn toilets and office spaces, 90 degrees and relocate them to the end of building (away from Dining Facility), and keep the double doors. Building type shall be Pre-Engineered metal buildings with reinforced CMU walls.

#### 4.25 SOLID WASTE COLLECTION POINT

The Contractor shall design, in locations convenient for easy removal, solid waste collection points. It shall be located inside the compound walls. The solid waste collection points shall be a 1.8 m X 1.8 m concrete pads with a 1.8 meter tall chain link fence around the perimeter. One side shall have a 1.2 m wide gate entrance. The solid waste collection points shall have a metal roof covering. The contractor shall prepare design plans showing location of collection points that usually are found next to barracks,

admin buildings, medical clinics all warehouses, maintenance facilities and all other buildings that generate any type of trash or rubbish.

#### 4.26 FIRE STATION

Design and construct a 520 m<sup>2</sup> Fire Station. The layout is provided in Appendices shall be for an open bay facility, insulated modular construction with 4-meter overhead doors. Open bays will be provided with exhaust fans for summer ventilation. Provide living quarters with Offices, Sleeping Areas, and Toilets together with a janitor room with a mop sink, Class Room, Living Room, Kitchen, and Dining Room. Entire building will be provided Diesel Heat w/Evaporative Cooling with A/C in the living areas. All floors in building shall be terrazzo, except garage and utility-type rooms. Modify plan and provide second exit at end of the corridor. Provide two bollards at each roll-up door jamb. A floor plan of is included in

#### **Appendix X.**

- 1) At least one power outlets every 4 m.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) AC unit shall be used to maintain a minimum temperature of 18 degree Celsius during winter and 30 degree Celsius during summer in all area other than the garage for fire truck.
- 4) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 5) The floor is smooth concrete finished with gray colored floor paint.
- 6) Provide adequate exterior area for window with double insulated glass glazing for light and ventilation.
- 7) Provide 8 pairs RJ45 outlets (for telephone and data) in offices at each power outlets with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 8) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 m above floor, and with paint of gross water-resistant finish for rest walls and ceilings.

#### 4.27 ARMS STORAGE BUILDING

The following requirements shall apply to the arms storage facilities:

Design-construct reinforced fully grouted CMU walls and partitions with insulated metal gable, and roof construction. Install vented louver in each storage area with 30 mm security bars @ 150 mm O.C. Install split-pack heat pump unit in office. Provide wood racks for storing long arms. Provide two bollards at each roll-up door jamb. Note this Arms storage room is not shown on the concept drawings.

- o. Construct 2.4 meter high chain link fence with barbed wire and vehicle gates surrounding the Arms storage building and yard. The contractor shall install barbed wire on supporting arms above the fence posts.
- p. Construct entry control points each consisting of a vehicle gate and a pedestrian gate. Extend each end member of the gate frames sufficiently above the top member to carry three strands of barbed wire in horizontal alignment.
- q. A proper drainage plan shall be incorporated into the arms storage building and exterior concrete finish which shall both slope away from the facility.
- r. CS/CSS/INF: Construct Battalion Arms Storage Building consisting of three contiguous buildings – 350 m<sup>2</sup> each (1050 m<sup>2</sup>). A floor plan of a single building size of 350 m<sup>2</sup> is included in **Appendix V.**

- s. BHC/GHC: Construct joint brigade Garrison Arms Storage Building consisting of two contiguous buildings – 350 m<sup>2</sup> each (700 m<sup>2</sup>). A floor plan of a single building size of 350 m<sup>2</sup> is included in **Appendix V**.

#### 4.28 ANTI VEHICLE TRENCH

Provide an anti-vehicle trench (3 meters wide X 2 meters deep) around perimeter of compound approximately 1800 meters (includes Phase I and Phase II) see **Appendix B** site layout concept in accordance with Phase I Master Plan.

Provide an anti-vehicle trench (3 meters wide X 2 meters deep) around perimeter of Brigade and Ammo Supply Point. Ditch shall be adjacent to all force protection fences and walls. Ditch shall be 5 meters from perimeter fences and walls.

#### 4.29 DETENTION FACILITY

Provide and install Detention Facility for 10 detainees and office for 2 guards. Holding cells shall be designed for double occupancy with the following built in amenities:

Bunks attached to wall, eastern style toilets, shower, and lavatory. Entry shall be a sally port. Building shall be constructed with reinforced concrete floor, walls and ceiling, with a metal roof. Provide office space and Toilet with eastern style toilets, shower, lavatory, power, and telephones for two guards.

Provide lockers for four guards. All fixtures shall meet the current American Correction Association (ACA) standards. The layout of this building is shown in Appendices.

- 1) At least one power outlets every 3 m in the office.
- 2) Concrete stoops shall be provided at all exterior doors.
- 3) AC unit shall be used to maintain a minimum temperature of 18 degree Celsius during winter and 30 degree Celsius during summer for the office and the corridor.
- 4) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 5) The floor is smooth concrete finished with gray colored floor paint.
- 6) Provide 10% exterior area for window with double insulated glass glazing for light and ventilation.
- 7) Provide two RJ45 outlets (for telephone and data) in offices with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.
- 8) Toilet/shower rooms shall be finished with ceramic tile for floor and wall areas 2 m above floor, and with paint of gross water-resistant finish for rest walls and ceilings.

#### 4.30 LAUNDRY FACILITY

The contractor shall design and construct 150 SM ANA laundry building to host 10 commercial washer and 10 commercial dryers, a walking area and a counter for receiving, a work area for clean cloth process, one toilet room, one storage for dirty clothes and one storage for clean laundry.

- 1) Provide power outlets in walls no more than 4 m apart and utilities for the dryers and washers.
- 2) Provide 5 deep-well sinks and 5 local clothes ringers for extreme dirty clothes.
- 3) Concrete stoops shall be provided at all exterior doors.
- 4) Wall mounted electric forced air AC unit shall be used to maintain comfort in winter and summer. Good ventilation system.
- 5) Maintain a building envelop of R-11 wall insulation, R-15 roof insulation, double insulated windows, and insulated metal doors.
- 6) The floor is smooth concrete finished with gray colored floor paint, walls and ceilings flat paint finish.
- 7) Provide at least 10% exterior area for window with double insulated glass glazing for natural light and ventilation.
- 8) Provide one pair of RJ45 outlets (for telephone and data) in the building with wires connected to central location in the building and a connection point to the exterior of the building which will be able to link to the communication system in the garrison.

## 5. ADDITIONAL DESIGN GUIDE

### 5.1 CS / CSS & INF BATTALION BARRACKS

The Contractor shall design and construct Type A barracks and Type B barracks per floor plan shown in **Appendix G** and **H**.

The Contractor shall design and construct barracks facilities based on the total population of one infantry battalion and the areas shown in the following table. Barracks for ordinary personnel shall be open bay. Barracks for middle, high ranking, and senior personnel shall be individual rooms. Enlisted Barracks and Middle, High, and Senior Barracks may be conjoined but shall be segregated by walls and shall have separate entrance/exits. Full height non-load bearing partitions shall be provided between the Enlisted and NCO billeting, as shown on the drawing schematic. Contractor shall also design and provide electrical room, janitor closet, mechanical room, stairways, toilet rooms, showers, and break room.

Net Sleeping Area per Soldier with Breakdown by Rank (NSM)

Rank		
E1-E6	Open Bay	5SM
E-7	Two to room	14SM
E-8	private room	12SM
E-9	private room	12SM
O2 to O3	Two to room	14SM
O4 & O5	private room	14 SM
O6	Private room	52 SM

Department / Rank	E1-E6	E-7	E-8	E-9	O7	O6	O5	O4	O3	O2	Total E1-E9	Total O2-6
CS Battalion Total 496	415	24	7	1			1	3	15	30	447	49
CSS Battalion Total 352	267	32	9	1			1	4	15	23	309	43
Brigade (107)	36	14	9	2	1	1	2	12	21	9	61	46
Garrison (286) B/G Total 394	179	19	9	1		1	4	12	14	19	208	50
Infantry Battalion Total 651	577	23	7	2		1	1	3	14	24	609	43
<b>TOTAL</b>	<b>1474</b>	<b>112</b>	<b>41</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>9</b>	<b>34</b>	<b>79</b>	<b>105</b>	<b>1634</b>	<b>231</b>

The Contractor shall incorporate the following special features into the barracks:

- 1) Ceiling fans shall be designed for summer ventilation.
- 2) Provide evaporative Cooling unit with ceiling fans with diesel heat and fuel storage to maintain a comfortable temperatures during winter and summer. Cooling unit with ceiling fans with diesel heat and fuel storage.

- 3) Each barracks shall have a dedicated storage area sized to 0.5 SM per person assigned to the barracks.

## 5.2 BATTALION HQ BUILDING

The battalion HQ building floor plan is attached as **Appendix K**.

### 1) Battalion Command Center

Construct a 28 SM Battalion Command Center with a high security door. This room shall be located near the Battalion staff offices. The Battalion Commander shall be provided with a bedroom and shower/toilet room next to his office in the Battalion HQ Building. In addition to standard electrical outlets in the room, provide a dedicated electrical circuit with 8 double receptacle electrical outlets in the appropriate locations to support the unit's assigned communications equipment. All inside plant telephone wiring shall originate and/or terminate in this room. Communications duct banks with cable installed linked to this room shall be designed and constructed to serve each building in the compound, including the Company Command Center and the guard towers. Install a 50mm conduit passing from the Battalion Command Center to the roof of the building. The roof penetration shall have a weatherproof box on top and shall be flashed or patched as necessary to prevent water leakage. Split pack air conditioning heat pumps, in addition to ceiling fans, shall be provided for the Battalion Command Center. The A/C shall be sized to accommodate 4 personnel with 4 computers and 6 radios.

### 2) Company Command Center

Construct a 28 SM Company Command Center with a high security door. This room shall be located near the Company staff offices. In addition to standard electrical outlets in the room, provide a dedicated electrical circuit with 8 two-receptacle electrical outlets to support the unit's assigned communication equipment. Install a 50mm (2") conduit passing from the Company Command Center to the roof. The roof penetration shall have a weatherproof box on top and shall be flashed or patched as necessary to prevent water leakage. The facility in general shall be cooled using using an evaporative Cooling unit with ceiling fans. Split Pack heat pump units, in addition to ceiling fans, shall be provided for the Company Command Center. The A/C shall be sized to accommodate 4 personnel with 4 computers and 6 radios.

### 3) Arms Storage Area

Arms Storage Area: Provide a weapons storage area in the rear of Battalion HQ building. The area shall have heavy duty metal doors and framed lockable door to each 8 RPGs, 8 Machine Guns, and all long-arm weapons for each person assigned to both the Battalion and Company. Provide storage within the facility for all Battalion and Company ammunition and ordinance. Provide wooden racks for storing long-arm weapons vertically. Racks shall not be furnished with locking bars. The Arms Storage Room shall be sized at 90 SM. Provide 18.6 SM (200 sf) room inside the arms room for secure storage of evidence and confiscated money or narcotics. This room shall have its own separate key. The facility shall be of solid reinforced concrete (200 mm thick concrete roof slab and solid CMU wall) with no windows, high security door, and explosion-proof lighting. Note this Arms storage room is not shown on the concept drawings.

## 5.3 TOILET, SHOWER, ABLUTION, AND LAUNDRY BUILDING

### 5.3.1 Ratio

Sink ratio	1:10
Shower Ratio	1:8
Toilet Ratio	1:10
Ablution Area	1:20

The Contractor shall design and construct a toilet, shower, ablution, laundry building based on entire population of men and women having their own facilities. The Contractor shall design and construct a toilet, shower, ablution building and the conceptual floor plan is attached in **Appendix I**. The Contractor shall incorporate the following special features into the building:

- All sinks shall be trough type constructed of block and concrete with ceramic tile exterior and lining capable of withstanding abuse.
- Provide evaporative coolers with supplemental cooling coil to maintain 27.8 C indoor conditions during the summer with diesel heat and fuel storage.
- Shower stalls shall be large enough to allow room to dress and undress between an outer and inner shower curtain no less than 2m x 1.5m and shall have a solid door on the outside.
- All toilets shall be eastern style with wall-mounted hose bib on the right side of the occupant as he faces the stall door. Urinals are not required. Face all toilets in the North/South axis for cultural reasons. The flush tank shall be provided with heavy duty push type button capable of withstanding abuse.
- Ablution areas shall contain hot and cold water spigots with a flexible 1.5m spray hose mounted below the control valves with a back flow prevented fitting at the hose bib and hanger. Ablution areas shall be provided with low flow water devices.
- Drainage for the entire facility, including showers shall be accomplished using a sloping floor leading to trench drains.
- Showers shall contain a single mixing valve for hot and cold water mixing and a wall mounted shower head.
- Electric hot water heaters shall be installed to provide hot water to the showers and sinks.
- The building shall be constructed with exhaust fans to ventilate steam to the outside environment and, where required, insulated piping to prevent freezing of water pipes in winter.
- All water lines inside of the building shall be galvanized steel and surface mounted... All hot water and cold water piping shall be insulated and provided with stainless steel protective covers.
- Accessories shall include but not limited to; toilet paper holders, soap dishes, curtains and curtain rods, robe hooks, mirrors, paper towel dispenser, metal shelf, and grab bars.
- The laundry function shall have a laundry trough sink, janitor/storage room. The laundry room is not shown on the current plans and shall be added to the facility.
- Provide cloth line for drying outside each barracks building. Fabricate clothes line assembly in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling imitations. Clearly mark units for reassembly and coordinated installation. Wire-rope assemblies (clothes line cable). Minimize amount of turnbuckle take-up used for dimensional adjustment so maximum amount is available for tensioning wire ropes. Wire rope shall be nylon covered. Cut, drill and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approx. 1 mm (1/32 inch), unless otherwise indicated. Remove sharp or rough areas on exposed surfaces. Form work true to line and level with accurate angles and surfaces. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate. Cut, reinforce drill, and tap as indicated to receive finish hardware, screws and similar items.  
Welded connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
- Provide a janitor room with a mop sink.
- The Contractor shall design and construct a laundry room at the end of the Toilet/Shower/Ablution/Laundry Building and incorporate the following special features into the toilet/shower building. The room shall have laundry trays to wash clothes. Drying the clothes will be done outside on clothes lines. The building annex for the Laundry room is not shown on the design drawings, and must be designed by the contractor.

#### 5.4 BATTALION STORAGE BUILDING

Construct Storage Building per the plan shown in **Appendix L** (800 m<sup>2</sup>). Design shall be for open bay facilities, provide 3 meter CMU walls and pre engineered insulated building. Provide office with 52 inch ceiling fan. Provide two 5 meter X 5 meter high roll up doors, or as detailed in the enclosed design

drawings. Building shall have 5 meter high unobstructed space. Provide bollards at all vehicle doors, two each jamb.

#### 5.5 BACHELOR OFFICERS QUARTERS BOQ BUILDING

Design and construct a Bachelor Officer Quarters complex with double loaded 1500 mm corridors built to the following space requirements. Provide housing for: (184) O1-O3 @ 14 m<sup>2</sup> double occupancy, with shared toilets; Shared toilets shall be grouped in one area on the corridor. Provide housing for: (43) O4-O5 @ 14 m<sup>2</sup> single occupancy, with shared toilets; Shared toilets grouped in one area on the corridor. Provide housing for: (4) O6-O8 one bedroom apartments with living room, private bath and closets @ 52 m<sup>2</sup> single occupancy. Provide Diesel Heat w/Evaporative Cooling with ceiling fans. Provide a janitor room with a mop sink each toilet.

#### 5.6 GENERAL CRITERIA

These design notes are intended to aid in preparation of design documents for new facilities and supplement the design of those facilities that have been previously constructed at other garrisons in Afghanistan.

##### 5.6.1 UNIQUE SITE REQUIREMENTS:

5.6.1.1 The building design shall provide insulation and exterior window shading techniques to reduce building heat loss and heat gain. Contractors shall include energy efficient heating and cooling solutions in design analysis.

5.6.1.2 All building with water supply shall have a water meter and shut off valve installed in a locked cabinet or closet area inside the building.

5.6.1.3 All building that are not K-Span shall have a sloped metal roof, with metal eaves, and soffits. See Section 01015 for roof specifications and warranty. All roof water run off from K-Span buildings shall have gutters and downspouts. All buildings with sloped metal roofs shall have gutters and downspouts. No water shall drain across walkways, stairs etc.

5.6.1.4 All building shall have finish floor set 150 mm above adjacent finish grade. Finish grade shall slope away from building 5% for three meters. All downspouts shall terminate at a splash block that diverts water 1000 mm away from building.

##### 5.6.2 BARRACKS, OFFICE, AND OTHER HABITABLE BUILDINGS

The following notes shall be incorporated into the Barracks and Headquarters designs:

Barracks, HQ Building complexes and all habitable building shall be designed to accomplish the following:

a. Barracks shall be spaced far enough apart to minimize noise (minimum 15 meters between barracks). The spacing shall also be suitable for snow removal at entrances, where applicable, and allowing for green space (trees and scrubs) for all sites.

b. Barracks complexes shall be arranged to allow for common area (central plaza) for Battalion/Headquarters assembly.

c. Heating and cooling for all habitable buildings larger than 250 square meters shall be by forced-air diesel-fired furnaces; and cooling by an integral evaporative-cooler. At least one Heat-Cool Unit for each separate structure, with multi Units for larger buildings. Buildings less than 250 square meters and those buildings specifically requiring split package heat pump units shall be provided with split package heat pump units.

d. All habitable buildings shall be thermally insulated to R-13 for walls and R 30 for roof.

- e. All barracks shall be of the standard size shown in the drawings.
- f. All Barracks and building lighting shall be designed and constructed to provide a uniform level of minimum lighting in accordance with Section 01015 throughout the buildings. Fluorescent lighting shall be installed throughout barracks buildings.
- g. Reversible 3-speed motor ceiling fans (minimum 52-inch blades) shall be designed and installed for barracks areas, one- and two-man bedrooms, dining rooms, supply and storage areas, classrooms and offices.
- h. Clothes lines, 1 each, shall be installed behind each barracks approximately 5 meters in length with 4 lines across, spaced 41 cm apart and of sufficient strength to prevent sagging when all of the lines are loaded. Use metal "T" post with non-rust type clothes lines.
- i. Showers shall contain a valve for hot and cold water mixing. There shall be a swivel showerhead mounted on the wall. The showerhead and the spigot shall each have a valve so that flow can be diverted to each. Showers shall be provided with low flow water devices.
- j. Provide at all Buildings with swinging doors: Walk-off grates shall be provided at all exterior doors with removable galvanized steel grates and dirt wells, size full door width by one (1) meter long. Provide a 150 mm wide steel boot scraper fixed in concrete to the side of each door for boot cleaning.
- k. Install carbon monoxide (CO) monitors in large occupancy areas, sleeping areas and enclosed facilities. If all the windows and doors are closed and there is no provision for intake air, there is a possibility of carbon monoxide built up in the rooms. These CO monitors/alarms shall be hard-wired for reliability and to prevent pilferage.
- l. All toilet rooms shall be designed with toilet fixtures facing North/South away from Mecca, for cultural reasons. Do not provide urinals for cultural reasons.

#### 5.6.3 SITE

- a. Install native crushed stone 100 mm thick shall be placed around all buildings, from the building wall or building landscaping out 2m and all areas of anticipated foot or vehicle traffic to reduce erosion and to provide dust control. Concrete walkways shall be installed between buildings and parking areas.
- b. Barracks shall be located no closer than 15 meters to each other.
- c. Install 10 meter tapered metal flagpoles with bases constructed or 600 mm reinforced concrete; imbed 2000 mm, with s.s. pulleys top and bottom w/10 mm nylon line and 100 mm ball on top. Provide base hinge to tilt pole for maintenance.

#### 5.6.4 PRIME POWER PLANT FUEL

The power plant shall include bulk fuel storage capacity based on four weeks (30-days) full-load operation for current capacity on design with provision to accommodate fuel storage for 2 additional generators. To be located adjacent per Phase I Master Plan adjacent to Phase I refueling point, location subject to approval of the COR.

##### 5.6.4.1 Heating, Ventilation, and Air conditioning (HVAC)

Environmental control of the facilities shall be achieved by HVAC equipment. As an alternative the contractor could propose other HVAC systems that will be most cost effective and approved by the U.S. Government. See Section 01015 for scope of work required.

##### 5.6.4.2 Life Safety

Design and Construct circulation pathways and exit stairs in accordance with building code references herein. Fire sprinkler system is not required. The facility shall comply with all other safety requirements

as required within references. Smoke detectors and fire alarm systems shall be installed in accordance with requirements herein. See **Appendix 3** Life Safety Analysis

### 5.6.3 Lighting

General lighting shall be provided as indicated and shall meet recommendations from IESNA for each building type and function within each building. Design and installation shall meet NFPA 70 (NEC) requirements.

Exterior lighting shall be high intensity discharge luminaries on 10 meter high minimum spun aluminum or galvanized steel poles. If to be installed on an existing installation, type of luminaries shall match existing predominant type within installation.

Searchlights shall be provided as indicated and shall be equivalent to the following:

- prison grade
- nickel reflectors (bullet resistant)
- 65 million candlepower (1000 watts)
- manual operation from below with one hand
- zenon lamp
- weatherproof design

### 5.6.4 Electrical

All electrical design and installation shall meet NEC (NFPA 70) requirements. Electrical receptacles shall be provided as indicated. Conductors and circuits shall be sized for the specific loads. Generated voltage shall be or 220/380v 50Hz. Contractor shall design all interior electrical systems as described in section 01015, Technical Requirements, and shall design and install any required exterior lighting, as described in section 01015.

### 5.6.5 Fencing and Barricades

Fencing shall consist of the types shown or described herein. Barricades shall consist of either HESCO Bastion Container barriers or concrete type. Barricades shall be as shown. Refer Drawings for required types and locations. Barricades are not intended to resist a certain horizontal load and are not required to be permanently anchored to ground.

### 5.6.6 Foundation Design

Foundations, including subgrade, shall be designed and constructed based on recommendations from geotechnical investigation required herein. All building shall have reinforced concrete slab with reinforced concrete foundation 800 mm minimum or below the frost line.

### 5.6.7 Special Concerns to be Complied With:

- Provide at all exterior doors at all buildings concrete stoops with walk-off grates having removable galvanized steel grates and dirt wells provide boot scraper for boot cleaning, See **Appendix 4**.
- All building walls will be insulated and rated R-13 and all roofing systems shall be rated R-30.
- Provide a janitor room with a mop sink in all building facilities. The janitor rooms in the BOQs and barracks shall not have mop sinks.
- Provide storage in all BOQs and Barracks at .5 SM per person in each barracks.
- All building shall have a sloped metal roof, with metal eaves, and soffits. All exterior entry ways to be covered and protected by rain gutters and diverters as to not have water falling on the entry ways to all buildings. See Section 010115 for roof specifications and warranty.
- Barracks shall be spaced far enough apart to minimize noise (minimum 15 meters between barracks).
- Building construction shall maximize the use of local construction material and techniques while meeting all RFP and seismic requirements.
- All Barracks and Admin areas lighting shall be designed and constructed to provide a uniform level of minimum lighting in accordance with Section 01015 throughout the buildings. Fluorescent lighting shall be installed throughout barracks buildings.

- The toilet/shower facilities shall be located with toilets facing North/South away from Mecca, for cultural reasons.
- Do not provide urinals for cultural reasons.
- Showers shall contain a valve for hot and cold water mixing. There shall be a showerhead mounted high on the wall and an additional spigot with a flexible 1.5 m spray hose mounted below the control valves with a hanger. The showerhead and the spigot shall each have a valve so that flow can be diverted to each. Showers shall be provided with low flow water devices.
- All sinks for the buildings and the central toilet/shower facilities shall be 1.8m wide trough type constructed poured in place concrete with ceramic tile exterior and stainless steel lining capable of withstanding abuse. Maximum width is 1.8m. Individual troughs shall serve only three (3) individuals with 3 spigots with hot and cold water and two drains.
- Install carbon monoxide (CO) monitors in large occupancy areas, sleeping areas and enclosed facilities. If all the windows and doors are closed and there is no provision for intake air, there is a possibility of carbon monoxide built up in the rooms. These CO monitors/alarms shall be hard-wired for reliability and to prevent pilferage.
- No connex boxes will be allowed for facilities of any sort.

## 6. COMPLETION OF WORK

6.1 All work required under this contract shall be completed within 300 calendar days from Notice to Proceed for site work.

Review Section 00150 for Schedule requirements. The Charette shall consist of the Customer, Contractor, Design Team and U.S. Army Corps of Engineers personnel to finalize design Completion of construction documents for 100%, after approval of a preliminary facility layout and landscape plan, the Contractor may commence Site Work. Contractor will prosecute the work diligently, and complete the entire work, ready for use. The time stated for completion shall include final cleanup of the premises. The Contractor shall survey site and verify the existing conditions and report to the Contracting Officer any interface problems that could potentially impact this work. The Contractor shall be responsible for submittals and developing and performing all operational and acceptance testing. Contractor shall construct the facilities as a Design-Build construction contract and shall be in accordance with all codes, regulations, and requirements stated in the task order documents.

6.2 All primary construction facilities, such as, barracks, power plant, all headquarters buildings, and DFAC facilities will display both the flag of the Peoples Islamic Republic of Afghanistan and the United States of America.

### EXAMPLE: MARKING (NOT TO SCALE)



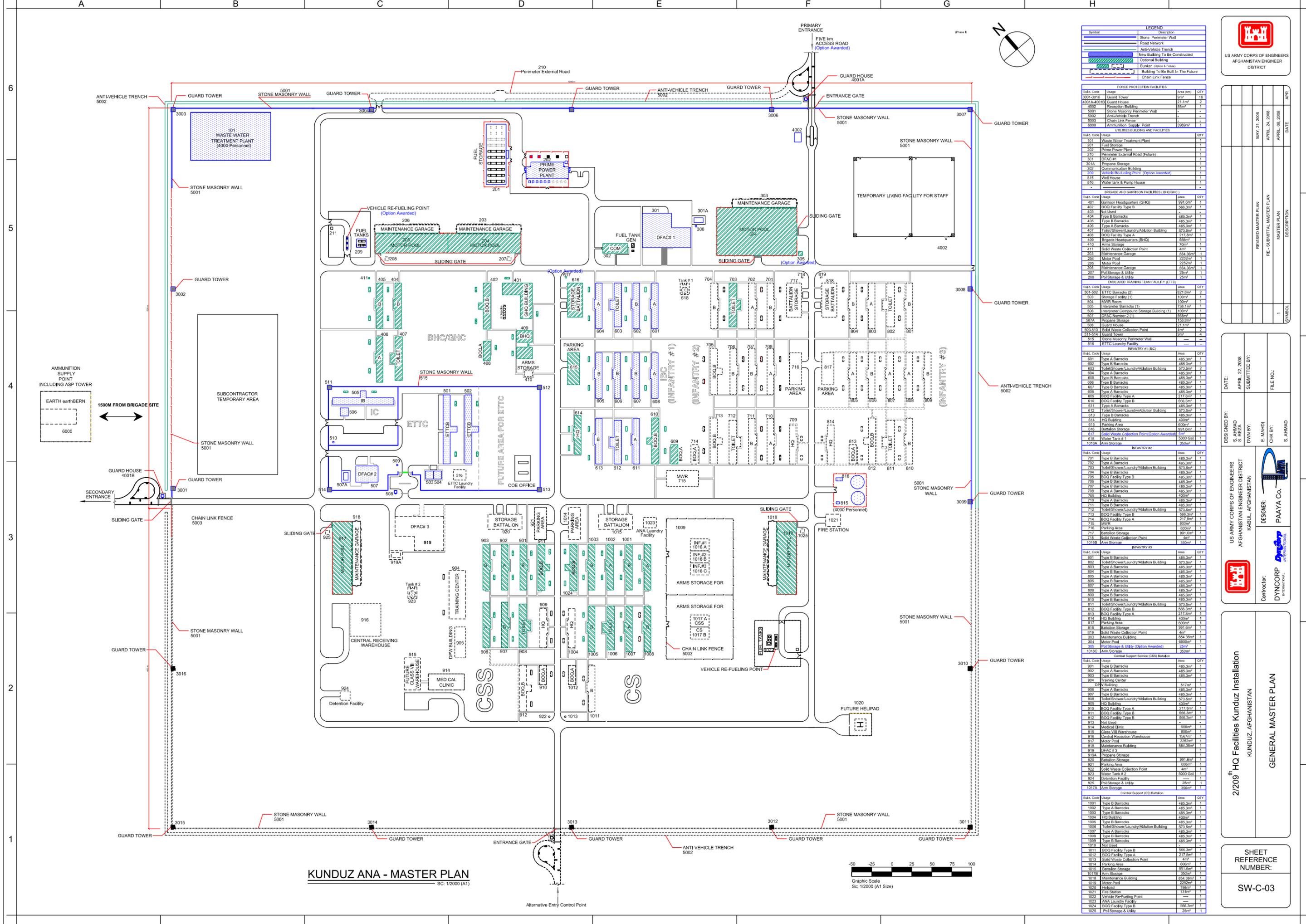


از طرف دولت امریکا  
برای مردم افغانستان

From the People of the United States  
to the People of Afghanistan

-- End of Section --

(End of Summary of Changes)



**KUNDUZ ANA - MASTER PLAN**  
SC: 1/2000 (A1)

**LEGEND**

Symbol	Description
[Line]	Stone Perimeter Wall
[Line]	Road Network
[Line]	Anti-Vehicle Trench
[Line]	New Building To Be Constructed
[Line]	Optional Building
[Line]	Building To Be Built In The Future
[Line]	Chain Link Fence

**FORCE PROTECTION FACILITIES**

Bldg. Code	Usage	Area (sqm)	QTY
3001-3016	Guard Tower	8m <sup>2</sup>	16
4001A-4001B	Guard House	21.1m <sup>2</sup>	2
4002	Excavation Building	18m <sup>2</sup>	1
5001	Stone Masonry Perimeter Wall	-	-
5002	Anti-Vehicle Trench	-	-
5003	Chain Link Fence	-	-
6000	Ammunition Supply Point	3969m <sup>2</sup>	1

**UTILITIES BUILDINGS AND FACILITIES**

Bldg. Code	Usage	Area (sqm)	QTY
101	Waste Water Treatment Plant	-	-
201	Fuel Storage	-	-
202	Prime Power Plant	-	-
210	Perimeter External Road (Future)	-	-
301	DFAC #1	-	-
301A	Propane Storage	-	-
302	Communication Building	-	-
815	Vehicle Re-fueling Point (Option Awarded)	-	-
816	Well House	-	-
816	Water Tank & Pump House	-	-

**BRIGADE AND GARRISON FACILITIES (BHG/GHC)**

Bldg. Code	Usage	Area (sqm)	QTY
301	Brigade Headquarters (BHQ)	591.5m <sup>2</sup>	1
402	BOQ Facility Type B	566.3m <sup>2</sup>	1
403	Not Used	-	-
404	Type B Barracks	485.3m <sup>2</sup>	1
405	Type B Barracks	485.3m <sup>2</sup>	1
406	Type A Barracks	485.3m <sup>2</sup>	1
407	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
408	BOQ Facility Type A	217.8m <sup>2</sup>	1
409	Brigade Headquarters (BHQ)	589m <sup>2</sup>	1
410	Arms Storage	70m <sup>2</sup>	1
411	Solid Waste Collection Point	4m <sup>2</sup>	1
403	Maintenance Garage	854.36m <sup>2</sup>	1
204	Motor Pool	2252m <sup>2</sup>	1
205	Motor Pool	2252m <sup>2</sup>	1
206	Maintenance Garage	854.36m <sup>2</sup>	1
207	Pd Storage & Utility	25m <sup>2</sup>	1
208	Pd Storage & Utility	25m <sup>2</sup>	1

**EMBEDDED TRAINING TEAM FACILITY (ETTC)**

Bldg. Code	Usage	Area (sqm)	QTY
501-502	ETTC Barracks (2)	821.6m <sup>2</sup>	2
503	Storage Facility (1)	110m <sup>2</sup>	1
504	MWR Room	110m <sup>2</sup>	1
505	Interpreter Barracks (1)	736.1m <sup>2</sup>	1
506	Interpreter Command	100m <sup>2</sup>	1
507	DFAC Number 2 (1)	505m <sup>2</sup>	1
507A	Propane Storage	153.8m <sup>2</sup>	1
508	Storage	21.1m <sup>2</sup>	1
509-510	Solid Waste Collection Point	4m <sup>2</sup>	2
511-514	Guard Tower	9m <sup>2</sup>	4
516	ETTC Laundry Facility	-	-

**INFANTRY #1 (IBC)**

Bldg. Code	Usage	Area (sqm)	QTY
601	Type A Barracks	485.3m <sup>2</sup>	1
602	Type B Barracks	485.3m <sup>2</sup>	1
603	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
604	Type A Barracks	485.3m <sup>2</sup>	1
605	Type B Barracks	485.3m <sup>2</sup>	1
606	Type A Barracks	485.3m <sup>2</sup>	1
607	Type B Barracks	485.3m <sup>2</sup>	1
608	Type A Barracks	485.3m <sup>2</sup>	1
609	BOQ Facility Type A	217.8m <sup>2</sup>	1
610	BOQ Facility Type B	566.3m <sup>2</sup>	1
611	Type A Barracks	485.3m <sup>2</sup>	1
612	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
613	Type B Barracks	485.3m <sup>2</sup>	1
614	HQ Building	430m <sup>2</sup>	1
615	Parking Area	600m <sup>2</sup>	1
616	Barracks Storage	991.6m <sup>2</sup>	1
617	Solid Waste Collection Point (Option Awarded)	4m <sup>2</sup>	1
618	Water Tank #1	5000 Gal	1
1016A	Arm Storage	350m <sup>2</sup>	1

**INFANTRY #2**

Bldg. Code	Usage	Area (sqm)	QTY
701	Type B Barracks	485.3m <sup>2</sup>	1
702	Type A Barracks	485.3m <sup>2</sup>	1
703	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
704	Type B Barracks	485.3m <sup>2</sup>	1
705	BOQ Facility Type B	566.3m <sup>2</sup>	1
706	Type B Barracks	485.3m <sup>2</sup>	1
707	Type A Barracks	485.3m <sup>2</sup>	1
708	Type A Barracks	485.3m <sup>2</sup>	1
709	HQ Building	430m <sup>2</sup>	1
710	Type A Barracks	485.3m <sup>2</sup>	1
711	Type B Barracks	485.3m <sup>2</sup>	1
712	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
713	BOQ Facility Type B	566.3m <sup>2</sup>	1
714	BOQ Facility Type A	217.8m <sup>2</sup>	1
715	MWR	800m <sup>2</sup>	1
716	Parking Area	600m <sup>2</sup>	1
717	Barracks Storage	991.6m <sup>2</sup>	1
718	Solid Waste Collection Point	4m <sup>2</sup>	1
1016B	Arm Storage	350m <sup>2</sup>	1

**INFANTRY #3**

Bldg. Code	Usage	Area (sqm)	QTY
801	Type B Barracks	485.3m <sup>2</sup>	1
802	Type A Barracks	485.3m <sup>2</sup>	1
803	Type A Barracks	485.3m <sup>2</sup>	1
804	Type B Barracks	485.3m <sup>2</sup>	1
805	Type A Barracks	485.3m <sup>2</sup>	1
806	Type B Barracks	485.3m <sup>2</sup>	1
807	Type A Barracks	485.3m <sup>2</sup>	1
808	Type A Barracks	485.3m <sup>2</sup>	1
809	Type B Barracks	485.3m <sup>2</sup>	1
810	Type A Barracks	485.3m <sup>2</sup>	1
811	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
812	BOQ Facility Type B	566.3m <sup>2</sup>	1
813	BOQ Facility Type A	217.8m <sup>2</sup>	1
814	HQ Building	430m <sup>2</sup>	1
815	Parking Area	600m <sup>2</sup>	1
816	Barracks Storage	991.6m <sup>2</sup>	1
817	Solid Waste Collection Point	4m <sup>2</sup>	1
818	Barracks Storage	991.6m <sup>2</sup>	1
819	Solid Waste Collection Point	4m <sup>2</sup>	1
820	Maintenance Building	854.36m <sup>2</sup>	1
821	Motor Pool	2252m <sup>2</sup>	1
822	Pd Storage & Utility (Option Awarded)	25m <sup>2</sup>	1
823	Pd Storage & Utility	25m <sup>2</sup>	1
1016C	Arm Storage	350m <sup>2</sup>	1

**INFANTRY #4**

Bldg. Code	Usage	Area (sqm)	QTY
901	Type B Barracks	485.3m <sup>2</sup>	1
902	Type A Barracks	485.3m <sup>2</sup>	1
903	Type B Barracks	485.3m <sup>2</sup>	1
904	Type B Barracks	485.3m <sup>2</sup>	1
905	Type A Barracks	485.3m <sup>2</sup>	1
906	Type B Barracks	485.3m <sup>2</sup>	1
907	Type A Barracks	485.3m <sup>2</sup>	1
908	Type A Barracks	485.3m <sup>2</sup>	1
909	Type B Barracks	485.3m <sup>2</sup>	1
910	Type A Barracks	485.3m <sup>2</sup>	1
911	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
912	BOQ Facility Type B	566.3m <sup>2</sup>	1
913	BOQ Facility Type A	217.8m <sup>2</sup>	1
914	HQ Building	430m <sup>2</sup>	1
915	Parking Area	600m <sup>2</sup>	1
916	Barracks Storage	991.6m <sup>2</sup>	1
917	Solid Waste Collection Point	4m <sup>2</sup>	1
918	Barracks Storage	991.6m <sup>2</sup>	1
919	Solid Waste Collection Point	4m <sup>2</sup>	1
920	Maintenance Building	854.36m <sup>2</sup>	1
921	Motor Pool	2252m <sup>2</sup>	1
922	Pd Storage & Utility (Option Awarded)	25m <sup>2</sup>	1
923	Pd Storage & Utility	25m <sup>2</sup>	1
1017A	Arm Storage	350m <sup>2</sup>	1

**INFANTRY #5**

Bldg. Code	Usage	Area (sqm)	QTY
1001	Type B Barracks	485.3m <sup>2</sup>	1
1002	Type A Barracks	485.3m <sup>2</sup>	1
1003	Type B Barracks	485.3m <sup>2</sup>	1
1004	HQ Building	430m <sup>2</sup>	1
1005	Type B Barracks	485.3m <sup>2</sup>	1
1006	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
1007	Type A Barracks	485.3m <sup>2</sup>	1
1008	Type B Barracks	485.3m <sup>2</sup>	1
1009	Type B Barracks	485.3m <sup>2</sup>	1
1010	Not Used	-	-
1011	BOQ Facility Type B	566.3m <sup>2</sup>	1
1012	BOQ Facility Type A	217.8m <sup>2</sup>	1
1013	Solid Waste Collection Point	4m <sup>2</sup>	1
1014	Parking Area	600m <sup>2</sup>	1
1015	Barracks Storage	991.6m <sup>2</sup>	1
1016B	Arm Storage	350m <sup>2</sup>	1
1017	Maintenance Building	854.36m <sup>2</sup>	1
1018	Motor Pool	2252m <sup>2</sup>	1
1019	Helipad	138m <sup>2</sup>	1
1021	Fire Station	131m <sup>2</sup>	1
1022	Vehicle Re-fueling Point	-	-
1023	ANA Laundry Facility	-	-
1024	BOQ Facility Type B	566.3m <sup>2</sup>	1
1025	Pd Storage & Utility	25m <sup>2</sup>	1

**INFANTRY #6**

Bldg. Code	Usage	Area (sqm)	QTY
1016A	Arm Storage	350m <sup>2</sup>	1
1016B	Arm Storage	350m <sup>2</sup>	1
1016C	Arm Storage	350m <sup>2</sup>	1

**Central Support Services (CSS) Battalion**

Bldg. Code	Usage	Area (sqm)	QTY
901	Type B Barracks	485.3m <sup>2</sup>	1
902	Type A Barracks	485.3m <sup>2</sup>	1
903	Type B Barracks	485.3m <sup>2</sup>	1
904	Training Center	517m <sup>2</sup>	1
905	DPY Building	517m <sup>2</sup>	1
906	Type A Barracks	485.3m <sup>2</sup>	1
907	Type B Barracks	485.3m <sup>2</sup>	1
908	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
909	HQ Building	430m <sup>2</sup>	1
910	BOQ Facility Type A	217.8m <sup>2</sup>	1
911	BOQ Facility Type B	566.3m <sup>2</sup>	1
912	BOQ Facility Type B	566.3m <sup>2</sup>	1
913	Not Used	-	-
914	Medical Clinic	900m <sup>2</sup>	1
915	Class VIII Warehouse	1500m <sup>2</sup>	1
916	Central Reception Warehouse	1500m <sup>2</sup>	1
917	Motor Pool	2252m <sup>2</sup>	1
918	Maintenance Building	854.36m <sup>2</sup>	1
919	DFAC #1	505m <sup>2</sup>	1
919A	Propane Storage	153.8m <sup>2</sup>	1
920	Barracks Storage	991.6m <sup>2</sup>	1
921	Parking Area	600m <sup>2</sup>	1
922	Solid Waste Collection Point	4m <sup>2</sup>	1
923	Water Tank #2	5000 Gal	1
924	Detention Facility	600m <sup>2</sup>	1
925	Pd Storage & Utility	25m <sup>2</sup>	1
1017A	Arm Storage	350m <sup>2</sup>	1

**INFANTRY #7**

Bldg. Code	Usage	Area (sqm)	QTY
1001	Type B Barracks	485.3m <sup>2</sup>	1
1002	Type A Barracks	485.3m <sup>2</sup>	1
1003	Type B Barracks	485.3m <sup>2</sup>	1
1004	HQ Building	430m <sup>2</sup>	1
1005	Type B Barracks	485.3m <sup>2</sup>	1
1006	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
1007	Type A Barracks	485.3m <sup>2</sup>	1
1008	Type B Barracks	485.3m <sup>2</sup>	1
1009	Type B Barracks	485.3m <sup>2</sup>	1
1010	Not Used	-	-
1011	BOQ Facility Type B	566.3m <sup>2</sup>	1
1012	BOQ Facility Type A	217.8m <sup>2</sup>	1
1013	Solid Waste Collection Point	4m <sup>2</sup>	1
1014	Parking Area	600m <sup>2</sup>	1
1015	Barracks Storage	991.6m <sup>2</sup>	1
1016B	Arm Storage	350m <sup>2</sup>	1
1017	Maintenance Building	854.36m <sup>2</sup>	1
1018	Motor Pool	2252m <sup>2</sup>	1
1019	Helipad	138m <sup>2</sup>	1
1021	Fire Station	131m <sup>2</sup>	1
1022	Vehicle Re-fueling Point	-	-
1023	ANA Laundry Facility	-	-
1024	BOQ Facility Type B	566.3m <sup>2</sup>	1
1025	Pd Storage & Utility	25m <sup>2</sup>	1

**INFANTRY #8**

Bldg. Code	Usage	Area (sqm)	QTY
1001	Type B Barracks	485.3m <sup>2</sup>	1
1002	Type A Barracks	485.3m <sup>2</sup>	1
1003	Type B Barracks	485.3m <sup>2</sup>	1
1004	HQ Building	430m <sup>2</sup>	1
1005	Type B Barracks	485.3m <sup>2</sup>	1
1006	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
1007	Type A Barracks	485.3m <sup>2</sup>	1
1008	Type B Barracks	485.3m <sup>2</sup>	1
1009	Type B Barracks	485.3m <sup>2</sup>	1
1010	Not Used	-	-
1011	BOQ Facility Type B	566.3m <sup>2</sup>	1
1012	BOQ Facility Type A	217.8m <sup>2</sup>	1
1013	Solid Waste Collection Point	4m <sup>2</sup>	1
1014	Parking Area	600m <sup>2</sup>	1
1015	Barracks Storage	991.6m <sup>2</sup>	1
1016B	Arm Storage	350m <sup>2</sup>	1
1017	Maintenance Building	854.36m <sup>2</sup>	1
1018	Motor Pool	2252m <sup>2</sup>	1
1019	Helipad	138m <sup>2</sup>	1
1021	Fire Station	131m <sup>2</sup>	1
1022	Vehicle Re-fueling Point	-	-
1023	ANA Laundry Facility	-	-
1024	BOQ Facility Type B	566.3m <sup>2</sup>	1
1025	Pd Storage & Utility	25m <sup>2</sup>	1

**INFANTRY #9**

Bldg. Code	Usage	Area (sqm)	QTY
1001	Type B Barracks	485.3m <sup>2</sup>	1
1002	Type A Barracks	485.3m <sup>2</sup>	1
1003	Type B Barracks	485.3m <sup>2</sup>	1
1004	HQ Building	430m <sup>2</sup>	1
1005	Type B Barracks	485.3m <sup>2</sup>	1
1006	Toilet/Showers/Laundry/Abution Building	573.5m <sup>2</sup>	1
1007	Type A Barracks	485.3m <sup>2</sup>	1
1008	Type B Barracks	485.3m <sup>2</sup>	1
1009	Type B Barracks	485.3m <sup>2</sup>	1
1010	Not Used	-	-
1011	BOQ Facility Type B	566.3	

QUESTIONS & ANSWERS (Q&A)

W917PM-08-R-0043 2/209th Facilities ANA Kunduz Installation Phase II

**“Remarks and/or explanations provided herein do not qualify or alter the terms, conditions, or requirements of the solicitation. The solicitation remains unchanged unless formally amended in writing by the Contracting Officer through issuance of a Standard Form (SF) 30, Amendment of Solicitation.”**

27 May 2008

**RFI #3**

Q1. Amendment 2 changes the number of Infantry Barracks Toilet/Shower/Ablution from 1 required to 2 is this correct as the Master Plan only shows 1 (1006)? The text in Paragraph 4.8 still lists 1 facility not 2.

[A1. Please refer to revised section 00010 - Bid Schedule](#)

Q2. Bid item 0017, Flag poles shows the quantity of 1 in the bid schedule, and 6 in the scope of Work. We are assuming 6. Is that correct?

[A2. Please refer to revised section 00010 - Bid Schedule](#)

Q3. For Bid item 0019, BOQs B Type, the bid schedule show 3 required, but item 4.17 in paragraph 4.0 of the Scope of Work shows only 1 required. Which is correct as the Master Plan only shows 1.

[A3. Please refer to revised section 00010 - Bid Schedule for number of required BOQs.](#)

Q4. Bid Item 0035, Anti-Vehicle Trench in the bid schedule indicates 1800M of trench is required however the language in 4.28 indicates that 3800M is required for the entire facility. Which is correct?

[A4. Please refer to revised section 00010 - Bid Schedule and section 01010 – Scope of Work.](#)

Q5. Bid Item 0040 Waste Water Treatment Plant is not in Paragraph 4.0 of the Scope of Work except in paragraph 3.2 which refers to building a waste water treatment plant, water treatment facility and an electrical power plan which appear to be negated by paragraphs 4.3, 4.4, 4.5. Is this an expansion to the existing Waste Water Plant (101, 102) or is this a new plant to be located in Phase 2?

[A5. Please refer to revised section 00010 - Bid Schedule and section 01010 – Scope of Work.](#)

Q6. Bid Item 41 indicates that this is to include all other generators, associated equipment, and POL storage not in item 4.5.2. The only place we can find an additional power requirement is for the Communications Facility. Is this cost to be separated out from the Communications Facility cost and priced here?

A6. Please refer to revised section 01010 – Scope of Work and section 00010 - Bid Schedule.

Q7. Bid Item 43 includes an INF BN Motor Pool with Maintenance building, but does not include the POL storage facility. Should this be included as a bid item?

A7. Please refer to revised section 00010 - Bid Schedule for clarification.

Q8. Bid Item 47, CS BOQ Type CEB indicates 2 are required, but only 1 is shown on the Master Plan (1011). Are 2 required?

A8. Please refer to revised section 00010 - Bid Schedule and Master Plan for clarification.

Q9. The Brigade and Garrison Optional bid items (0006-0010, 0016-0019) except for the arms storage, and the Communications Facility (BI 0026) are indicated as optional bid items in Phase 1. Are these to remain in the Phase 2 package? If they are to remain in the phase 2 bid package along with BI 0024, 0028, 0038, 0043, 0044, 0045, 0011-0015, which are all in Phase 1 area, what should we assume regarding the installation of roads and all utilities in this area by the present contractor? Should we assume that the roads and utilities are in place and we are only required to connect to the existing system or will the Phase 2 contractor have to complete some of these roads and utilities?

A9. Please refer to revised section 00010 - Bid Schedule, 01010 – Scope of Work and Master Plan for clarification for base bid and optional bid line items.

Q10. Please confirm that under SOW 1. GENERAL --- International Building Code 2003 is acceptable, other projects have been requiring IBC 2006.

A10. Please reference revised SOW.

Q11. Please confirm that under SOW 1. LOCATION --- Altitude: 432 meters is incorrect, 4.32 meters seems to be closer per the topo map.

A11. Average altitude as per scope of work is approximately 432; latest topographic map indicates and average elevation greater than 300 meter. Please reference latest topographic map developed in Phase I and included in RFP Appendices.