

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. 0003		3. EFFECTIVE DATE 12-May-2010	4. REQUISITION/PURCHASE REQ. NO. W5J9JE10R0063	1 5
6. ISSUED BY AFGHANISTAN DISTRICT NORTH (AEN) US ARMY CORPS OF ENGINEERS OPERATION ENDURING FREEDOM APO AE 09366		CODE W5J9JE	7. ADMINISTERED BY (If other than item 6) See Item 6	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			X	9A. AMENDMENT OF SOLICITATION NO. W5J9JE-10-R-0063
			X	9B. DATED (SEE ITEM 11) 16-Apr-2010
				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.) W5J9JE-10-R-0063 is amended to include a new bid schedule, a revised section 01010, and a revised Drawing C101 Site Plan. The date for receipt of offers remains May 23, 2010 at 3:00 p.m.				
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: _____ EMAIL: _____	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		12-May-2010

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SECTION 00010**PROPOSAL SCHEDULE**

No.	Description	Qty	Unit	Unit Price	Total Amount
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BASE PROPOSAL:**0001 DESIGN PROGRAM**

0001A	Site Survey, A/E Design	1	LS	XXX	\$_____
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0001B	As-Built Drawings	1	LS	XXX	\$_____
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0001C	Geotechnical Report	1	LS	XXX	\$_____
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0002 SITE DEVELOPMENT/IMPROVEMENTS

0002A	Mobilization, Demobilization	1	LS	XXX	\$_____
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0002B	Storm Water Collection and Management System	1	LS	XXX	\$_____
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0002C	Site Electrical System and Generation	1	LS	XXX	\$_____
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0002D	Aggregate road way and Access Drives to Bunkers	1	LS	XXX	\$_____
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0002E	ECP improvements	1	LS	XXX	\$_____
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0002F	Perimeter Fence	1	LS	XXX	\$_____
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0003 FACILITIES

0003A	Earth Covered Magazine	25	EA	\$_____	\$_____
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0003B	Guard Tower	1	EA	\$_____	\$_____
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0003C	Guard Shack	1	EA	\$_____	\$_____
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0004 DBA INSURANCE

0004A DBA Insurance 1 LS xxx \$_____

TOTAL PROPOSAL: \$_____**PROPOSAL SCHEDULE NOTES:**

1. Offeror shall submit prices on all items. Scope of work on each items are described in Section 01010. The quantities shown in the bid schedule shall take precedence and be used for developing the proposal.
2. Only one contract for the entire schedule will be awarded under this solicitation. This project will be awarded as a lump sum contract. This Proposal Schedule is an accounting tool for allocating funds to applicable budget.
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 design analysis, drawings, and specifications for all facilities not provided as part of this contract.
5. 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.
6. The government has the right to reduce the number of units in a bid item or choose to delete a base bid item entirely if necessary after the proposals are received.
7. PERIOD OF PERFORMANCE AND LIQUIDATED DAMAGES: See Section 00150 for performance schedule and liquidated damages. Period of performance is defined as the number of calendar days from receipt of notice to proceed. Liquidated damages are assessed at the stated rate per day for every day of delay past the period of performance until contract completion.
8. Abbreviations:
 LS = Lump Sum
 LM = Linear meters
 EA = Each
9. DBA INSURANCE: The amount listed by the offeror on this CLIN is the estimated DBA insurance premium (estimated payroll of the offeror and its subcontractors times the applicable rate(s)). The DBA insurance premium amount varies with payroll and the nature of services and will, therefore, be taken into account during price evaluation of offers. The actual amount paid by the government under this CLIN will be based on the amount of the Rutherford invoice, stamp "paid" and submitted by the offeror after contract award. In the event of recalculation of the premium by CNA based on actual payroll amounts, the contracting officer will adjust this CLIN by contract modification to reflect the actual premium amounts paid.

-END OF SECTION-

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site visits may be arranged during normal duty hours by contacting:

Access to the project site is restricted by the MOD and the offeror should develop their proposal from the information provided in the RFP.

(End of provision)

The following items are applicable to this modification:

AMENDMENT 0003

1. Section 00010, Proposal Schedule, Line item 002F Perimeter Fence. Qty was changed FROM "2650" TO Lump Sum. A revised proposal schedule accompanies this amendment.
2. FAR Clause 52.236-27 Site Visit (Construction) is changed.
3. Section 01010: Delete Section 01010 in its entirety and replace with the revised section 01010 that accompanies this amendment. Changes made are as follows:
 - a. Paragraph 2 Location: Added Corner 9 coordinates and renumbered remaining coordinates.
 - b. Removed blank page 3.
 - c. Site Location Map on page 5 has been revised and moved to page 4 and remaining spec section renumbered.
 - d. Paragraph 4.2, subparagraph titled "Contractor Design and Construction for Infrastructure Other Than Standard Electrical System": Second bullet was revised.
 - e. Paragraph 4.3.6.4 Perimeter Chain Link Fence has been revised.

4. Section 01015, Paragraph 2.3.5.5 Chain Link Fence is changed to read as follows:

“2.3.5.5 Chain-Link Fence

Provide chain-link fence and gates around the compound perimeter as stated in section 01010 and the generation system. Chain link fence and gate fabric shall be No. 9 gage wires woven into a 50 mm diamond mesh. Fabric shall be coated with 366 grams per square meter zinc galvanizing. Posts shall be ASTM F 1083 Pipe, Steel, Hot Dipped Zinc Coated (Galvanized) Welded or equal. Top of fence and gates shall be provided with outriggers and reinforced barbed tape as indicated above. Post sizes shall be as shown on drawings.

The construction shall be in compliance with plans provided and the AED Standard Designs.”

5. Delete Drawing C101 Site Plan and replace with the revised Drawing C101 that accompanies this amendment.

SECTION 01010

SCOPE OF WORK

1. GENERAL

The project consists of the construction of 25 Ammunition Bunkers (Box Type), one Guard Tower, one Guard Shack, a perimeter fence, upgrades to the existing Entry Control Point (ECP), aggregate roads, and related infrastructure for the Ammunition Supply Point (ASP) at Pol-e-Charki to include site work. The project site is located 6.5 km northeast of downtown Kabul, Afghanistan on Jalalabad road after the KMTC and before Pol-e-Charki in Kabul province, Dih sabz district. See the appendix for location map of the site. The project is defined as the design, material, labor, and equipment to construct buildings, security measures, utilities and other infrastructure for the Afghan National Army. The work within this contract shall meet and be constructed in accordance with current U.S. design and building codes, safety and security standards and applicable local standards. A partial listing of references is included herein and in Section 01015.

IBC, International Building Codes, 2006 or latest edition

NFPA 101, Life Safety Code, 2006

UFC 4-010-01, DoD Minimum Anti-Terrorism Standards for Buildings, 8 Oct 03, incl. Change 1

The contractor may be required to coordinate the efforts required under this contract with at least one other contractor or the Ministry of Defense at the site. Such coordination requirements will be required as part of this contract. The coordination effort may be significant and may include such tasks as the exchange of information with other contractors such as phasing of construction, allowing access through the site, temporary security measures; in addition or in lieu of sharing design data, drawings, calculations, and technical information. Additionally it may be necessary for the contractor to conduct meetings, hold teleconferences, and prepare the submittal of additional information to the Contracting Officer (KO) that demonstrates the coordination and integration of new work with existing and future work of other contractors or government agencies. All coordination shall be in agreement with the KO and approved prior to the commencement of any work.

1.1 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.

1.2 SUBMITTALS

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

1.3 SECURITY

Security is critical to construction in Afghanistan, especially on roads and remote areas away from Coalition Force bases. The risk/threat level for the area surrounding this project site is low, relative to the chance of attack, improvised explosive devices (IEDs), kidnapping, theft, and vandalism however, the road network used to access the facility remains dangerous due to frequent attacks and must be addressed in the security plan. The Contractor must have an appropriate amount of security/protection to match the threat in the project area and along the supply routes. A detailed security plan in accordance with Section 01040 SECURITY shall be approved by the Government before construction notice to proceed.

1.4 CQM TRAINING REQUIREMENT

Before project design and construction begin, the Contractor's Quality Control Manager is required to have completed the U.S. Army Corps of Engineers (USACE) Construction Quality Management (CQM) course, or equivalent. The CQM course will be offered periodically by the Afghanistan Engineer District (AED), USACE. Additional approved CQM courses include those offered by the Commercial Technical Training Center (in Jalalabad) and the Champion Technical Training Center (in Kabul). The Quality Assurance Branch of the AED can provide information related to AED offerings of the CQM course, as well as contact information for training centers. Alternative CQM courses, other than those mentioned above, must be approved by the Quality Assurance Branch.

The Contractor's quality control plan, as defined in USACE Guide Specification 01451, entitled "Contractor Quality Control", must include "The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function." For the QC Manager, qualifications must include a certificate demonstrating completion of an approved CQM course.

1.5 ELECTRICAL WORKERS QUALIFICATIONS

Electrical work shall be performed by Qualified Personnel with verifiable credentials that are thoroughly knowledgeable with applicable code requirements. Verifiable credentials consist of a certificate of graduations from an approved trade school and required amount of experience, depending on work being performed, and should be identified in the proposal that is submitted. A qualified person is one who has received training in and has demonstrated skills and knowledge in the construction and operation of electrical equipment and installations and the hazards involved. This includes the skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment, to determine the nominal voltage of exposed live parts, the clearance distances and corresponding voltages to which the qualified person will be exposed.

1.5.1 SUPERVISORY ELECTRICIAN

Supervisory electricians must be graduates of an approved trade school, and must have two years of relevant electrician experience. Approved programs include but are not limited to the Afghanistan Technical and Vocational Institute (in Kabul), the Kunar Trades Training Center and the Commercial Technical Training Center (in Jalalabad). Work experience resumes and graduation certificates shall be submitted and approved prior to commencement of any design or construction involving electrical work. Approval is granted by the Contracting Officer's Representative with guidance by the Quality Assurance Branch and/or the Safety Office of the Afghanistan Engineer District, US of the Army Corps of Engineers.

1.5.2 ELECTRICIANS

Electricians must be graduates of an approved trade school and must be able to provide upon request a certification of successful course work completion and graduation in addition to a resume of work experience.

1.6 AED DESIGN REQUIREMENTS DOCUMENTS

AED Design Requirements documents shall be adhered to in this contract. These documents are listed in Section 01015 (References) and are available from the COR. These documents shall be used as the basis for design and construction, and for selecting options within the United Facilities Guide Specifications (UFGS) discussed below. It is the Contractor's option to use specifications contained in the AED Design Requirements Documents, when provided, or to adapt the UFGS specifications to match the requirements provided in the AED Design Documents and specifications. Data and requirements in the AED Design Requirements documents shall supersede UFGS language where there are conflicts.

1.7 CONSTRUCTION PROJECT SIGN

The contractor shall fabricate and display at least one sign to identify the project site as an Islamic Republic of Afghanistan sponsored project. The sign shall meet or exceed the requirements provided in Section 01060 SPECIAL CLAUSES. Exact placement of the sign at the project site shall be coordinated with the COR.

2. LOCATION

See the appendices for a site location map.

The site is located in Pol-e-Charki, Afghanistan, as shown on attached drawings.

<u>Point ID</u>	<u>Longitude</u>	<u>Latitude</u>
Corner 1	69.33844	34.55527
Corner 2	69.33715	34.55628
Corner 3	69.33659	34.55672
Corner 4	69.33633	34.55696
Corner 5	69.33599	34.55728
Corner 6	69.33460	34.55860
Corner 7	69.33590	34.56070
Corner 8	69.33710	34.56120
<u>Corner 9</u>	<u>69.33950</u>	<u>34.56220</u>
Corner 10	69.34252	34.55836
Corner 11	69.34377	34.55849
Corner 12	69.34535	34.55842
Corner 13	69.34647	34.55789
Corner 14	69.34800	34.55715
Corner 15	69.34881	34.55647
Corner 16	69.34909	34.55622
Corner 17	69.34938	34.55564
Corner 18	69.34962	34.55501
Corner 19	69.35026	34.55386
Corner 20	69.35040	34.55348
Corner 21	69.35049	34.55314
Corner 22	69.35069	34.55216
Corner 23	69.35008	34.55197
Corner 24	69.34943	34.55154
Corner 25	69.34897	34.55138
Corner 26	69.34858	34.55133

3. UNEXPLODED ORDNANCE (UXO)

3.1 UXO REMOVAL AND CLEARANCE

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 to a minimum depth of one meter and the certificate of clearance is available for review. No construction activities are to be conducted without review of the written clearance certification for the site. If sub-surface construction activities will be performed on this site the clearance certification must state that the clearance depth was conducted to a minimum one meter in depth. ***If the contract parameters for sub-surface construction exceed the minimum one meter clearance depth the Contractor WILL be responsible for clearance to these depths.*** The Contractor may only provide clearance/removal services via UN Mine Action Center for Afghanistan (UNMACA) accredited entities and Clearance/removal may only be undertaken in accordance with International Mine Action Standards (IMAS), Afghanistan Mine Action Standards (AMAS), and applicable U.S. Army Corps of Engineer (USACE) Ordnance & Explosives (OE) safety standards.

NOTE 1: For previous UXO/mine information, and a copy of the clearance certification the following points of contact from the UN Mine Action Center of Afghanistan are provided:

Mohammad Sediq, Chief of Operations,
Email: sediq@unmaca.org
Cell: +93 070 295207

Hansie Heymans, Chief Information Officer,
Email: hansie@unmaca.org
Cell: +93 070 294286

UXO Safety/ Demining COR, USACE
tan.uxo.demining.safety@usace.army.mil, Roshan: 079-778-6848 Comm: 540-667-2127

NOTE 2: ***For construction in excess of one meter in depth on areas previously cleared.*** The Contractor will provide a standard UXO/Demining safety work plan to the US Army Corps of Engineers UXO / Demining COR for review prior to commencement of all UXO clearance / demining activities on the project sites. Once the UXO/ Demining clearance has concluded, the Contractor shall provide the US Army Corps of Engineers UXO / Demining COR a clearance certificate for review and approval before any construction activities are to commence.

NOTE 3: The Contractor should be aware that many areas demined by NGOs and other groups may have only been cleared to a depth of 13 cm for humanitarian purposes. If construction will take place, a minimum of one meter in depth is mandatory.

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, mark the area of the UXO/Mine and immediately notify the Contracting Officer, COR or the Government Construction Representative. UXO/Mine disposal will not be the responsibility of the Contractor unless the area exceeds the one meter clearance depth of the original clearance certificate.

4. SUMMARY OF WORK

4.1 CONTRACTOR REQUIREMENTS

The Contractor shall provide Site Adapt design and construction of standard building designs and Civil Infrastructure as specified herein:

The Contractor shall perform this work as a Site Adapt contract in accordance with the requirements stated herein and in Section 01015 Technical Requirements. **THE CONSTRUCTION OF THE STANDARD BUILDINGS LISTED BELOW SHALL BE DONE IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATION FURNISHED, WITH NO CHANGES MADE TO ANY FEATURE OF WORK SHOWN IN THESE DESIGN DRAWINGS AND SPECIFICATIONS.** All other Site Adapt work shall be the responsibility of the Contractor and submitted for review in accordance with Section 01335 of this Contract.

4.2 STANDARD BUILDING DESIGNS (design drawings and specifications provided):

- Modular Earth Covered Magazine Ammo Bunker, Box Type
- Guard Tower
- Guard Shack

NAME/DESIGNATION	APPROX SIZE (GSM)	NUMBER OF UNITS	DESCRIPTION
Earth Covered Magazine Ammo Bunker, Box Type	185	25	1-Story Reinforced Concrete
Guard Shack	12	1	1-Story Reinforced Concrete Frame w/ CMU infill
Guard Tower	12	1	2-Story Reinforced Concrete Frame w/ CMU infill

Electrical System Design:

- Power, lighting, lightning protection and grounding for buildings.
- Engine Generator and fuel tank

Contractor Design and Construction for Infrastructure Other Than Standard Electrical System:

- ECP Upgrades at location noted on conceptual site plan above
- Perimeter fence running from the ECP upgrades along the ROE to approximately coordinate 69.3372, 34.5612 and traverse in generally a straight line, ending at the existing fence near ROE Corner #1. The fence shall be located such that the grave site remains outside of the compound.
- Road Network and Ammo Bunker Access Drives
- Drainage system to include wadi relocation, culverts, causeways, and drainage channels on both sides of the Road Network and Bunker Access Drives.

The design and construction work shall include but not be limited to that described herein.

Site Improvement Design Work shall be executed in accordance with the requirements described in Section 01015, and the provided Specifications and Drawings. In the case of an ambiguity, the Contracting Officer (KO) shall make the final decision. The KO shall furnish the decision in writing if requested by the Contractor. Designs shall be approved by the Contracting Officer's Representative

(COR) prior to the start of work. The Contractor shall verify all dimensions provided in the scope of work prior to the start of any construction.

4.3 GENERAL REQUIREMENTS FOR FACILITIES

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.

All standard construction amenities and details such as lighting, site grading and drainage, utility connections, etc. shall be implied as a design and construction requirement. Drawings referenced are contained in Section 01015 or the appendix. Contractor shall provide positive drainage away from all structures and bunker access driveways. Contractor shall take into account stormwater runoff from both on and offsite locations when relocating existing wadi's, installing roadside ditches and providing positive drainage away from all bunker access points when locating the proposed road and bunkers. This may require the contractor to provide a satisfactory fill or retaining walls, which will be considered incidental to the site grading. All grading on site shall be completed prior to any other definable feature of work, excluding design. The contractor shall maintain positive drainage away from structures and facilities at all times throughout the duration of the contract. Any damage cause by storm water runoff or snow melt during construction will be the contractor's responsibility to correct at the contractors expense. No additional payment or extension of time will be provided by the government for any damage to the site or its contents resulting from runoff.

All specific requirements under this design-construct contract shall be in accordance with the requirements stated in Section 01015: Technical Requirements.

In general, this project consists of designing and constructing of the following in the noted project phases:

4.3.1 PROJECT PHASING

4.3.1.1 DESIGN PHASES

The Contractor shall design roads and structures in accordance to the Afghanistan "Standard Drawings Revision -1" by the Ministry of Rural Rehabilitation and Development (MRRD) and the Ministry of Public Works (MPW). All design submittals shall comply with Section 01335. Road design and construction shall be in accordance with MMRD and MPW Standards, latest edition, and based upon criteria included in Section 01015. In the event of discrepancies between contract documents and the MRRD / MPW Standards, the requirements of this contract take precedence. The Contractor is responsible for all required soil testing and surveying for pavement, structures, and surface road design. The design phase of the project shall consist of four design submittal stages:

- The 10% Preliminary Design submittal shall include a geotechnical report, full topographical survey of the area within the ROE, preliminary new roadway alignment, with accurate existing horizontal and vertical layout and profiles. The contractor shall survey cross section of all wadi's and existing channels.
- The 65% Design Review submittal designs shall include the 100% design of the road existing of plan and profile (P&P) views and cross-sections at every 50 m along the alignment of the proposed roadway, locations of all proposed bunkers, bunker access driveways, proposed retaining walls and preliminary drainage structure designs.
- The 90% Design Review submittal shall have all plan requirements; Technical, Plan and Profile, cross-sections for roadway, all bunker locations and grading, all details of ECP upgrades and detailed drawings of all drainage structures.
- The 100% Design Review submittal shall incorporate all comments and changes in the final design package.

4.3.1.2 CONSTRUCTION PHASES

The Contractor shall construct roads and drainage structures including culverts and causeways in accordance to the Afghanistan "Standard Drawings Revision -1" by the Ministry of Rural Rehabilitation and Development (MRRD) and the Ministry of Public Works (MPW). The design phase of the project shall consist of four construction phases:

- Phase 1: Construction of the entire roadway including turn around, drainage system (site grading, wadi relocation, drainage channels, culverts, and causeways if necessary), the Guard Tower, the Guard Shack, ECP upgrades, portion of all ammo bunker access drives which require a culvert to a minimum of 10 m past the culvert location, the generator, enclosure and Fuel Storage system.
- Phase 2: Construction of the nine ammo bunkers which have bunker access drives off the proposed turn around. Temporary chain link fence vehicular and pedestrian security gates and concrete Jersey Barriers shall be placed to prevent unauthorized vehicular access to the completed bunkers.
- Phase 3: Construction of the next eleven ammo bunkers working from the turn around to the ECP. Temporary chain link fence vehicular and pedestrian security gates and concrete Jersey Barriers shall be placed to prevent unauthorized vehicular access to the completed bunkers. Previous temporary security measures shall be removed.
- Phase 4: Construction of the final five ammo bunkers working from the turn around to the ECP. Previous temporary security measures shall be removed. All other remaining work shall be completed.

4.3.2 TOPOGRAPHIC SURVEY AND GEOTECHNICAL INVESTIGATIONS

4.3.2.1 SURVEY

The topographic survey design shall include the locations of all existing features 15 meters outside the limits of the ROE. Existing features to be located include but are not limited to:

- Major trees or limit of treelines for areas dense vegetation
- Rock/Ledge outcrops
- Streams, Rivers and Wadis
- Existing permanent and temporary structures to include building corners, FF elevation and significant features adjacent to the structures.
- Existing roadways including edge of pavement/aggregate, centerline of road, road width, shoulders and drainage channels along the side of the road.
- Parking and paving areas
- Sidewalks and walkways
- Utilities both above and below ground to include water, sewer, electrical, communications, gas and storm drainage.
- Perimeter walls top and bottom both sides of wall
- Fences including gates
- Hesco barriers and other entry control point structures
- Limits of the ROE shall be shown on the topographic plan

This survey shall meet the requirements of World Geodetic System 1984 (WGS 84 UTM Zone 42N) in decimal degrees. Provide a sufficient quantity of horizontal and vertical control shall be established to provide a detailed topographic survey at a legible scale with 0.3 meter contour intervals. Major contours should be shown as a long dashed line type representing whole meter intervals. Minor contours should be shown as a short dashed line type representing 0.3 meter and 0.7 meter contours increments. Intermediate elevations shall be provided as necessary to show all significant breaks in grade and changes in terrain. Spot elevations affecting design of facilities shall be provided.

All surface and sub-surface features within the area to be surveyed shall be shown on the plans and identified by either a comprehensive legend on the first sheet of the survey or labeled on the topographic maps.

Provide photographs that generally represent the project site. Each photo will have a brief description of the photo number, date, location and direction the photo was taken. The photos number, location and direction shall be indicated on a site sketch.

Data used to create the survey plans shall be submitted with the 100% submittal. The submittal of the survey data shall at a minimum include the following:

- Copies of all field notes.
- Listing of all points including Northing, Easting, Elevation and Description in a CSV electronic file.
- Sketches with permanent ties to all control points used to conduct the field survey.
- All other office calculations

4.3.2.2 GEOTECHNICAL

Existing geotechnical information is not available at the project site. Any site-specific geotechnical data required to develop foundations, materials, earthwork, and other geotechnical related design and construction activities for this project shall be the Contractor's responsibility. The Contractor shall develop all pertinent geotechnical design and construction parameters by appropriate field and laboratory investigations and analyses. The Contractor shall produce a detailed geotechnical report containing field exploration and testing results, laboratory testing results (particle sizes and distribution, liquid and plastic limit test, and moisture and density test, etc.). Information in the report shall include, but not limited to: existing geotechnical (e.g. surface and subsurface) conditions, location of subsurface exploration logs on site plan, exploration point, allowable soil bearing capacity and foundations recommendations, bearing capacity, pavement design criteria (e.g. CBR values, K values), ground-water levels, and construction materials (e.g. aggregates). Two copies of the detailed geotechnical report shall be submitted to the Contracting Officer.

4.3.2.3 GEOTECHNICAL QUALIFICATIONS

The Contractor shall provide capabilities for geotechnical engineering and engineering geology to include equipment to accomplish field drilling, sampling and testing, laboratory equipment and geotechnical analysis (seepage, slope stability, settlement, bearing capacity). A geotechnical engineer or geotechnical firm responsible to the Contractor shall develop all geotechnical engineering design parameters. The geotechnical engineer or geotechnical firm shall be qualified by: education in geotechnical engineering; professional registration; and a minimum of ten years of experience in geotechnical engineering design.

4.3.3 CONSTRUCT NEW ROAD AND BUNKER ACCESS DRIVES

New aggregate roads are required to interface with the existing road network and the proposed 25 bunkers site. All roads shall be 7.3 m wide, unless otherwise noted, with 1.5 m shoulders, with a minimum of 100 mm aggregate driving surface, on a minimum of 150 mm compacted sub-grade. Roads shall be planned to support a minimum 12,000 kg vehicle per single axle. Plan for modifications to existing roads as needed, and plan for good drainage and erosion protection. Sub-grade shall be 300 mm minimum in depth scarified and compacted to 95% proctor density. Drainage ditches on both sides of the roadway capable of conveying stormwater runoff for the 25-year storm event shall be incorporated into the road design and construction. Culverts or causeways shall be installed at all bunker access drives that cross the ditches. The new roadway finished grade shall be a minimum of 300 mm above existing grade.

Road design and construction shall be in accordance with the MRRD and MPW Standards, latest edition, and based upon criteria included in Section 01015. In the event of discrepancies between the contract documents and the MRRD / MPW Standards, the requirements of this contract take precedence. Contractor is responsible for all required soil testing and surveying for pavement, structures, surface road design.

4.3.4 SITE WORK

Site work shall be conducted in coordination with the new road and bunker access drives. Site work shall include grading all areas where bunkers will be located and relocation/realignment of existing drainage features, as needed, to convey stormwater runoff for a 25-year storm event. In general, grading around all bunkers shall direct stormwater away from the new structures toward the roadway drainage system or wadi's. Bunkers shall be located a minimum of 300 mm above the roadway finished grade at the bunker door.

4.3.5 EARTH COVERED MAGAZINE BUNKERS

Provide 25 ammunition storage bunkers (Box Type). See appendices for more information on a **conceptual** layout of the bunkers. Bunkers shall be Modular Earth Covered Magazines (Box Type), constructed of reinforced concrete, covered with 150 mm of sand, and topped with cohesionless fill as illustrated on the provided contract drawings. **Bunkers shall be constructed in strict accordance with the plans and specification furnished with the contract, with no changes made to any feature of work shown in these design drawings and specifications.** Bunker sites shall be excavated out of the hillsides and sloping terrain, so that the bunkers may be set in and concealed. Provide necessary aggregate access drives for each bunker. See Section 01015 Technical Requirements for required bunker setback\alignment requirements.

The storage bunker swing doors (as shown on contract provided Modular Storage Magazine plan drawings S-9 through S-13) are part of the Main Structural Blast Resisting System; therefore, field welding SHALL NOT BE UTILIZED for any elements of the ammunition storage bunkers swing doors. Certified shop welding including certified shop welders and materials shall be utilized for the ammunition storage bunker swing door fabrication in accordance with AWS D1.1 2004. A welding plan and welder certifications shall be provided to the Corps Contracting Officers Representative and submitted to AED engineering for review and approval prior to the commencement of door fabrication.

4.3.6 FORCE PROTECTION MEASURES

The Contractor shall design and construct force protection measures to include, upgrades to the ECP, construction of one Guard House, and construction of one Guard Tower. 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.

4.3.6.1 UPGRADES TO EXISTING ECP

The ECP upgrades shall include swinging gate(s), vehicle drop arm barriers, a rejection lane, a guard shack, a guard tower and concrete Jersey barriers placed in serpentine pattern to prevent high speed vehicle entry into compound. The Guard Shack shall be constructed and located at a minimum distance of one and a half vehicles away from the entrance to serve as a checkpoint. The Contractor shall construct the Guard Shack at the existing ECP in strict accordance with the provided contract drawings, with no changes made to any feature of work shown in these design drawings and specifications. Provide a rejection lane after vehicle inspection and before entering the compound. A portion of the existing Perimeter Security Wall shall be demolished in order to upgrade the ECP and provide a rejection lane. No ECP upgrades shall be provided outside the existing Perimeter Security Wall. A Perimeter Security Wall shall be constructed inside the existing compound to provide the area required to construct the ECP upgrade. Note that the area outside the existing Perimeter Security Wall has not been demined.

4.3.6.2 GUARD TOWER

The Contractor shall construct a Guard Tower at the existing ECP in strict accordance with the provided contract drawings, with no changes made to any feature of work shown in these design drawings and specifications. The Guard Tower shall be constructed with a metal door and horizontal sliding windows with metal window frame, 1200 mm high x 1200 mm wide. Glazing for the windows shall be an 8 mm thick laminated glass, securely anchored per the reference UFC AFTP requirements. Windows shall not be screened.

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. The stairs and platforms shall be constructed per OSHA Standards, with entry to the tower through a lockable security door.

The Guard Tower shall be provided with general lighting and shall be fitted with one 360-degree omnidirectional 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. The Guard Tower shall have a 360-degree concrete walk around balcony with concrete short walls.

Do not use white lights inside the Guard Tower. Use red, blue, or black lenses in interior Guard Tower lighting.

For communications, provide rigid metal conduit with pull strings from a junction in the Guard Tower to a junction box in the Guard Shack. Run a conduit for the Guard Shack junction box to a handhole outside the building. Wiring for communications system is not in the contract.

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.

4.3.6.3 GUARD SHACK

The Contractor shall construct a Guard Shack at the existing ECP in strict accordance with the provided contract drawings, with no changes made to any feature of work shown in these design drawings and specifications.

4.3.6.4 PERIMETER CHAIN LINK FENCE

The Contractor shall construct a chain link perimeter fence in strict accordance with the provided contract drawings, with no changes made to any feature of work shown in these design drawings and specifications. The perimeter fence shall be installed approximately 3 meters inside the ROE limits in the manner described in paragraph 4.2 of this section.

4.3.7 LIFE SAFETY

Design and Construct 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.

4.3.8 SITE ELECTRICAL DISTRIBUTION SYSTEM

POWER SYSTEM: The Contractor shall design and construct a power system to include a 10 kVA, 380 volt, single phase, 50 Hz prime power generator for the guard shack and guard tower with a fuel tank, and the provision for the new bunkers to be served by a portable generator. The contractor is not responsible to supply the portable generator. All electrical design and installation shall meet NEC (NFPA 70) requirements. All wiring shall be run and pulled through conduits. Electrical receptacles shall be provided as indicated. Conductors and circuits shall be sized for the specific loads. The electrical system shall be 220/380 V, single phase, 50 hertz. Provide weatherproof generator enclosure(s) and a covered (roof-only) shelter with chain link security fence for the engine generator and associated fuel tank.

Contractor shall design and all interior and exterior electrical systems as described in Section 01015 Technical.

4.3.9 FOUNDATION DESIGN

Foundations shall be properly placed on suitable compacted ground area and shall be in accordance with the recommendations from the geotechnical investigation. Building foundations shall be founded a minimum of 800 mm below grade. Foundation designs shall be corroborated with the geotechnical findings and recommendations.

The contract provided Standard Building Designs for the Ammo Bunker, Guard Shack and Guard Tower foundations were designed for a soil bearing capacity of 1.5 kg/cm² (3,000 psf), 0.75 kg/cm² (1,500 psf) and 0.75 kg/cm² (1,500 psf) respectively. The geotechnical investigation shall confirm bearing capacity to be no less than assumed in the design. If geotechnical investigation shows a bearing capacity less than the assumed in the design, Contractor shall redesign footings based on the geotechnical investigation data. Foundation designs shall be corroborated with the geotechnical findings and recommendations. No reduction in the footings in the Standard Building Designs will be permitted.

5. COMPLETION OF WORK

All work required under this contract shall be completed within 420 calendar days including government review time from Notice to Proceed for site work.

All work under this contract shall be completed and buildings ready for beneficial occupancy in accordance with the following schedule:

Work Items to be completed no later than **75** calendar days after Notice to Proceed (NTP):

- **10% and 65% Design phases (part 4.3.1.1 of SOW)**

Work Items to be completed no later than **150** calendar days after NTP:

- **90% and 100% Design phases (part 4.3.1.1 of SOW)**

Work Items to be completed no later than **280** calendar days after NTP:

- **Construction Phase 1 (part 4.3.1.2 of SOW)**

Work Items to be completed no later than **340** calendar days after NTP:

- **Construction Phase 2 (part 4.3.1.2 of SOW)**

Work Items to be completed no later than **380** calendar days after NTP:

- **Construction Phase 3 (part 4.3.1.2 of SOW)**

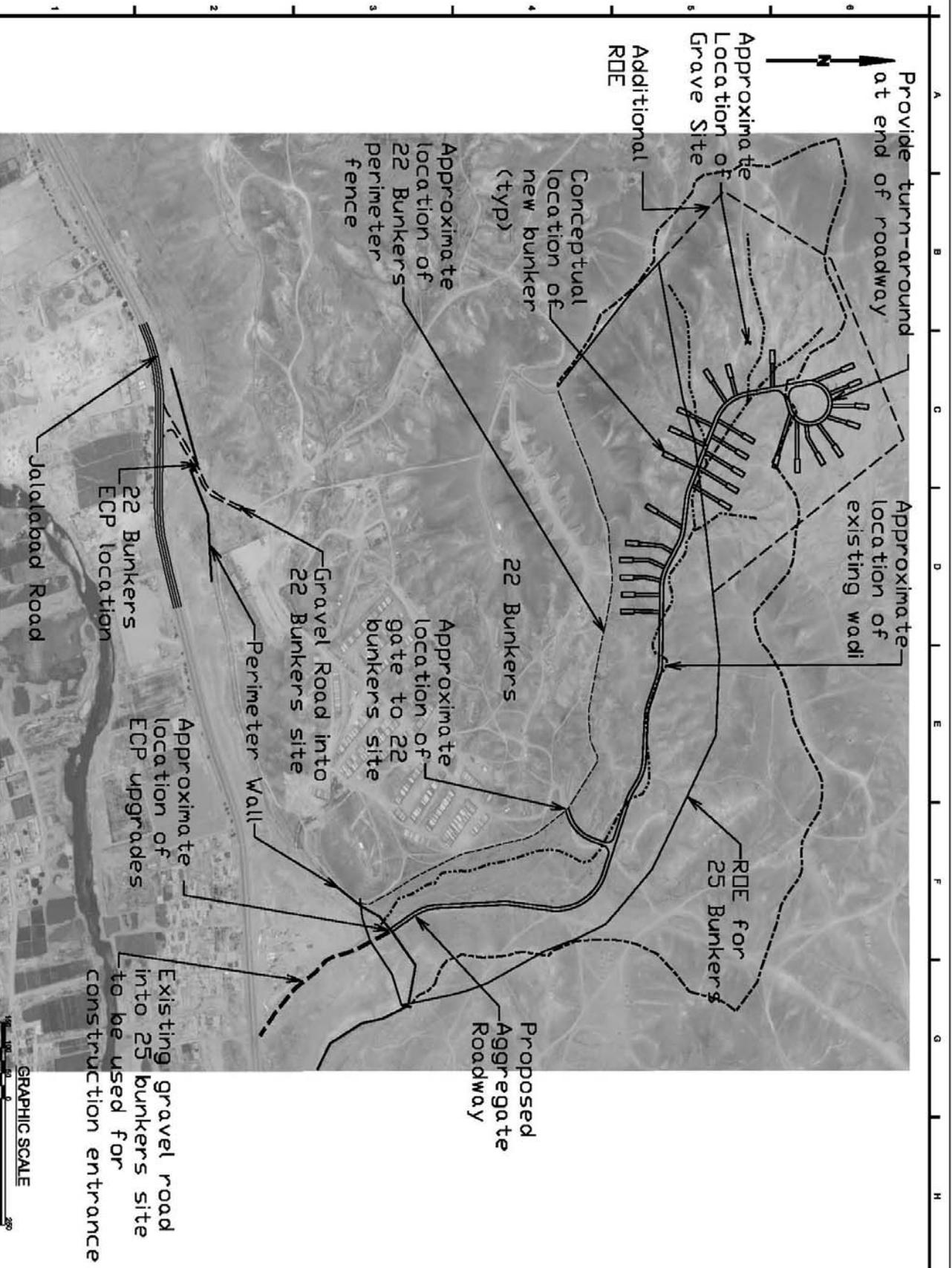
Work Items to be completed no later than **420** calendar days after NTP:

- **Construction Phase 4 (part 4.3.1.2 of SOW)**

6. REFERENCES

Refer to Section 01015 for required references.

-- END OF SECTION --



As Seen 350m x 341m



REFERENCE
C-101
SHEET 1 OF 1

AFGHAN NATIONAL ARMY
25 BUNKERS
POL-E-MARJA, AFGHANISTAN

CONCEPTUAL SITE PLAN
CONCEPT 'W'

U.S. ARMY ENGINEER DISTRICT, AFGHANISTAN
CORPS OF ENGINEERS
APO AE 90936

ENGINEERING AND
CONSTRUCTION DIVISION

DESIGNED BY:	DATE:
DRAWN BY:	ISSUED FILE NO.:
REVIEWED BY:	ISSUANCE CODE:
SUBMITTED BY:	FILE NAME:
	PROJECT NO.:
	PROJECT DATE:

NO.	DESCRIPTION	DATE	APP.	DATE	DESCRIPTION	DATE	APP.

