

<b>SOLICITATION, OFFER, AND AWARD</b> <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO.	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES 1 of 111
	<b>S-IZ100-12-R-0030</b>	<input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	April 5, 2012	

**IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.**

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
	PR1698922	
7. ISSUED BY <b>U.S. Embassy Al Kindy Street International Zone Baghdad, Iraq</b>	CODE	8. ADDRESS OFFER TO <a href="mailto:BaghdadGSOProcBid@state.gov">BaghdadGSOProcBid@state.gov</a>
9. FOR INFORMATION CALL:	A. NAME → Ms. Desiree Tupper	B. TELEPHONE NO. (Include area code) <b>(NO COLLECT CALLS)</b> <a href="mailto:BaghdadGSOProcurement@state.gov">BaghdadGSOProcurement@state.gov</a>

**SOLICITATION**

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder."

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying no., date):*

**CHANCERY GATOR PARKING AT THE U.S. EMBASSY BAGHDAD, IRAQ.**

SF-1442, Solicitation, Offer and Award

- A. Price
- B. Scope of Work
- C. Packaging and Marking
- D. Inspection and Acceptance
- E. Deliveries/Performance
- F. Administrative Data
- G. Special Requirements
- H. Clauses
- I. List of Attachments
- J. Quotation Information
- K. Evaluation Criteria
- L. Representations, Certifications, and other Statements of Offerors or Quoters

11. The Contractor shall begin performance within 5 calendar days and complete it within 90 calendar days after receiving  award,  notice to proceed. This performance period is  mandatory,  negotiable. (See **Section E**)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i>	12B. CALENDAR DAYS
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

Sealed offers in original and 1 copies to perform the work required are due at the place specified in Item 8 by **12:00 noon on April 19, 2012** local time. If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

An offer guarantee  is,  is not required.

All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by referenced. Offers providing less than 90 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

**OFFER** (Must be fully completed by offeror)

<b>14. NAME AND ADDRESS OF OFFEROR</b> (Include ZIP Code)	<b>15. TELEPHONE NO.</b> (Include area code)
CODE	<b>16. REMITTANCE ADDRESS</b> (Include only if different than Item 14)

17. The offeror agrees to perform the work at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government within 60 calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.

**AMOUNTS**      **USD** \_\_\_\_\_

18. The offeror agrees to furnish any required performance and payment bonds.

**ACKNOWLEDGMENT OF AMENDMENTS**  
 Offeror acknowledges receipt of amendments to the solicitation -- give number and date of each

<b>AMENDMENT NO.</b>									
<b>DATE</b>									

<b>20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER</b> (Type or print)	<b>B. SIGNATURE</b>	<b>C. OFFER DATE</b>
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**IARD** (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA	
24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM Section F	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 253(c)( )
26. ADMINISTERED BY	27. PAYMENT WILL BE MADE BY  <b>American Embassy Baghdad</b>	

**CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE**

<input checked="" type="checkbox"/> <b>28. NEGOTIATED AGREEMENT</b> (Contractor is required to sign this document and return <u>1</u> copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration slated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications are incorporated by reference in or attached to this contract.	<input type="checkbox"/> <b>29. AWARD</b> (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.
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<b>30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN</b> (Type or print)	<b>31A. NAME OF CONTRACTING OFFICER (TYPE OR PRINT)</b>		
<b>30B. SIGNATURE</b>	<b>30C. DATE</b>	<b>31B. UNITED STATES OF AMERICA BY</b>	<b>31C. AWARD DATE</b>

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SF 1442 cover sheet

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- Attachment 1: Sample Bank Letter of Guarantee
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## REQUEST FOR QUOTATIONS - CONSTRUCTION

### A. PRICE

The contractor shall complete all work, including furnishing all labor, material, equipment and services required under this purchase order for the following firm fixed price and within the time specified. This price shall include all labor, materials, overhead and profit.

<b>Description</b>	<b>Price – in USD</b>
<b>A. Construction Project</b>	
<b>B. DBA Insurance</b>	
<b>TOTAL PRICE (A+B)</b>	

### B. SCOPE OF WORK

The character and scope of the work are set forth in the contract. The Contractor shall furnish and install all materials required by this contract.

In case of differences between small and large-scale drawings, the latter will govern. Where a portion of the work is drawn in detail and the remainder of the work is indicated in outline, the parts drawn in detail shall apply also to all other portions of the work.

### C. PACKAGING AND MARKING

Mark materials delivered to the site as follows:

**American Embassy  
Al Kindi Street  
International Zone  
Bagdad, Iraq**

### D. INSPECTION AND ACCEPTANCE

The COR, or his/her authorized representatives, will inspect from time to time the services being performed and the supplies furnished to determine whether work is being performed in a satisfactory manner, and that all supplies are of acceptable quality and standards.

The Contractor shall be responsible for any countermeasures or corrective action, within the scope of this contract, which may be required by the Contracting Officer as a result of such inspection.

## D.1 *Substantial Completion*

(a) "*Substantial Completion*" means the stage in the progress of the work as determined and certified by the Contracting Officer in writing to the Contractor, on which the work (or a portion designated by the Government) is sufficiently complete and satisfactory. Substantial completion means that the property may be occupied or used for the purpose for which it is intended, and only minor items such as touch-up, adjustments, and minor replacements or installations remain to be completed or corrected which:

- (1) do not interfere with the intended occupancy or utilization of the work, and
- (2) can be completed or corrected within the time period required for final completion.

(b) The "date of substantial completion" means the date determined by the Contracting Officer or authorized Government representative as of which substantial completion of the work has been achieved.

Use and Possession upon Substantial Completion - The Government shall have the right to take possession of and use the work upon substantial completion. Upon notice by the Contractor that the work is substantially complete (a Request for Substantial Completion) and an inspection by the Contracting Officer or an authorized Government representative (including any required tests), the Contracting Officer shall furnish the Contractor a Certificate of Substantial Completion. The certificate will be accompanied by a Schedule of Defects listing items of work remaining to be performed, completed or corrected before final completion and acceptance. Failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use upon substantial completion shall not be deemed an acceptance of any work under the contract.

## D.2 *Final Completion and Acceptance*

D.2.1 "*Final completion and acceptance*" means the stage in the progress of the work as determined by the Contracting Officer and confirmed in writing to the Contractor, at which all work required under the contract has been completed in a satisfactory manner, subject to the discovery of defects after final completion, and except for items specifically excluded in the notice of final acceptance.

D.2.2 The "*date of final completion and acceptance*" means the date determined by the Contracting Officer when final completion of the work has been achieved, as indicated by written notice to the Contractor.

D.2.3 *Final Inspection and Tests* - The Contractor shall give the Contracting Officer at least five (5) days advance written notice of the date when the work will be fully completed and ready for final inspection and tests. Final inspection and tests will be started not later than the date specified in the notice unless the Contracting Officer determines that the work is not ready for final inspection and so informs the Contractor.

D.2.4 *Final Acceptance* - If the Contracting Officer is satisfied that the work under the contract is complete (with the exception of continuing obligations), the Contracting Officer shall issue to the Contractor a notice of final acceptance and make final payment upon:

- Satisfactory completion of all required tests,
- a final inspection that all items by the Contracting Officer listed in the Schedule of Defects have been completed or corrected and that the work is finally complete (subject to the discovery of defects after final completion), and
- submittal by the Contractor of all documents and other items required upon completion of the work, including a final request for payment (Request for Final Acceptance)

## E - DELIVERIES OR PERFORMANCE

### 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to:

- (a) commence work under this contract within **(5) five calendar days** after the date the Contractor receives the notice to proceed,
- (b) prosecute the work diligently, and,
- (c) complete the entire work ready for use not later than **(90) ninety calendar days** after the date the Contractor receives the notice to proceed.

The time stated for completion shall include final cleanup of the premises and completion of punch list items.

### 52.211-12 LIQUIDATED DAMAGES - CONSTRUCTION (SEP 2000)

- (a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay liquidated damages to the Government in the amount of **\$732.00** for each calendar day of delay until the work is completed or accepted
- (b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Default clause.

## CONTRACTOR'S SUBMISSION OF CONSTRUCTION SCHEDULES

- (a) The time for submission of the schedules referenced in FAR 52.236-15, "Schedules for Construction Contracts", paragraph (a), is hereby modified to reflect the due date for submission as "10 calendar days after receipt of an executed contract".

- (b) These schedules shall include the time by which shop drawings, product data, samples and other submittals required by the contract will be submitted for approval.
- (c) The Contractor shall revise such schedules (1) to account for the actual progress of the work, (2) to reflect approved adjustments in the performance schedule, and (3) as required by the Contracting Officer to achieve coordination with work by the Government and any separate contractors used by the Government. The Contractor shall submit a schedule, which sequences work so as to minimize disruption at the job site.
- (d) All deliverables shall be in the English language and any system of dimensions (English or metric) shown shall be consistent with that used in the contract. No extension of time shall be allowed due to delay by the Government in approving such deliverables if the Contractor has failed to act promptly and responsively in submitting its deliverables. The contractor shall identify each deliverable as required by the contract.
- (e) Acceptance of Schedule: When the Government has accepted any time schedule; it shall be binding upon the Contractor. The completion date is fixed and may be extended only by a written contract modification signed by the Contracting Officer. Acceptance or approval of any schedule or revision thereof by the Government shall not:
  - (1) Extend the completion date or obligate the Government to do so,
  - (2) Constitute acceptance or approval of any delay, or
  - (3) Excuse the Contractor from or relieve the Contractor of its obligation to maintain the progress of the work and achieve final completion by the established completion date.

*Notice Of Delay* - If the Contractor receives a notice of any change in the work, or if any other conditions arise which are likely to cause or are actually causing delays which the Contractor believes may result in late completion of the project, the Contractor shall notify the Contracting Officer. The Contractor's notice shall state the effect, if any, of such change or other conditions upon the approved schedule, and shall state in what respects, if any, the relevant schedule or the completion date should be revised. The Contractor shall give such notice promptly, not more than ten (10) days after the first event giving rise to the delay or prospective delay. Only the Contracting Officer may make revisions to the approved time schedule.

*Notice to Proceed*

- (a) After receiving and accepting any bonds or evidence of insurance, the Contracting Officer will provide the Contractor a Notice to Proceed. The Contractor must then prosecute the work, commencing and completing performance not later than the time period established in the contract.
- (b) It is possible that the Contracting Officer may elect to issue the Notice to Proceed before receipt and acceptance of any bonds or evidence of insurance. Issuance of a Notice to Proceed by the Government before receipt of the required bonds or insurance certificates or policies shall not be a waiver of the requirement to furnish these documents.

*Working Hours* - All work shall be performed on regular workdays between 07:00 and 17:00. Other hours, if requested by the Contractor, may be approved by the Contracting Officer's Representative (COR). The Contractor shall give 24 hours in advance to COR who will consider any deviation from the hours identified above. Changes in work hours, initiated by the Contractor, will not be a cause for a price increase.

### *Preconstruction Conference*

A preconstruction conference will be held no later than 5 days after contract award at to discuss the schedule, submittals, notice to proceed, mobilization and other important issues that affect construction progress. See FAR 52.236-26, Preconstruction Conference.

### **E.9 Deliverables**

The following items shall be delivered under this contract:

<b>Description</b>	<b>Quantity</b>	<b>Delivery Date</b>	<b>Deliver To:</b>
Section E. Preconstruction Conference	1	5 days after award	COR
Section E. Construction Schedule	1	5 days after NTP	COR
Project Design Notes/Sketches	1	10 days from NTP	COR
Section F. Payment Request	1	Upon completion of work	COR
Section G. Securities/Insurance	1	15 days after award	CO
Section G. Personnel Biographies	1	5 days after award	COR
Section D. Request for Final Acceptance	1	Upon completion of work	COR
Section D. Request for Substantial Completion	1	5 days before inspection	COR
Section E. Notice of Delay	1	Within 10 days after event	CO
Section E. Additional Hours	1	No later than 24 hours in advance of need	COR
Section G. Differing Site Condition	1	Within 10 days of occurrence	CO
Punch List	1	5 days after Substantial Completion	COR
Section G. As-Built Drawings	1	Before final acceptance	COR
Drawings and Specifications issued by a licensed Fire Protection Engineer	1	10 days after NTP	COR
Safety/Security Plan	1	10 days after NTP	COR
Meeting Minutes/Progress Report	1	Weekly	COR
Updated Schedule	1	Weekly	COR
Safety Incidents	1	Within 24 hours of occurrence	COR
O&M Manuals	1	Upon completion of the work	COR

## F ADMINISTRATIVE DATA

### 652.242-70 CONTRACTING OFFICER'S REPRESENTATIVE (COR) (AUG 1999)

- (a) The Contracting Officer may designate in writing one or more Government employees, by name or position title, to take action for the Contracting Officer under this contract. Each designee shall be identified as a Contracting Officer's Representative (COR). Such designation(s) shall specify the scope and limitations of the authority so delegated; provided, that the designee shall not change the terms or conditions of the contract, unless the COR is a warranted Contracting Officer and this authority is delegated in the designation.
- (b) The COR for this contract is the Facilities Manager.

Payment: The Contractor's attention is directed to Section H, 52.232-5, "Payments Under Fixed-Price Construction Contracts". The following elaborates on the information contained in that clause.

Requests for payment may be made no more frequently than monthly. Payment requests shall cover the value of labor and materials completed and in place, including a prorated portion of overhead and profit.

After receipt of the Contractor's request for payment, and on the basis of an inspection of the work, the Contracting Officer shall make a determination as to the amount, which is then due. If the Contracting Officer does not approve payment of the full amount applied for, less the retainage allowed by in 52.232-5, the Contracting Officer shall advise the Contractor as to the reasons.

Under the authority of 52.232-27(a), the 14 day period identified in FAR 52.232-27(a)(1)(i)(A) is hereby changed to 30 days.

The Contractor shall address invoices to:

**U.S Embassy Baghdad  
Financial Management Officer  
International Zone  
Baghdad, Iraq**

Alternately, invoices may be submitted in Acrobat PDF format only, to this email address:

[BaghdadVouchers@state.gov](mailto:BaghdadVouchers@state.gov)

### SYNCHRONIZED PREDEPLOYMENT AND OPERATIONAL TRACKER (SPOT)

In accordance with paragraph (g) of contract clause 52.225-19, Contractor Personnel in a Designated Operational Area or Supporting a Diplomatic or Consular Mission Outside the United States, the contractor shall use Synchronized Predeployment and Operational Tracker

(SPOT). Contractor shall enter before deployment or if already in the designated operational area, enter upon becoming an employee under the contract, and maintain current data, including departure data, for all Contractor personnel that are authorized to support a diplomatic or consular mission outside the United States. Information on how to register in SPOT is available at <http://www.dod.mil/bta/products/spot.html>

## G. SPECIAL REQUIREMENTS

- G.1.0 Performance/Payment Protection - The Contractor shall furnish some form of payment protection as described in 52.228-13 in the amount of 20% of the contract price. A Bank Guarantee letter is to be provided.
- G.1.1 The Contractor shall provide the information required by the paragraph above within ten (10) calendar days after award. Failure to timely submit the required security may result in rescinding or termination of the contract by the Government. If the contract is terminated, the contractor will be liable for those costs as described in FAR 52.249-10, Default (Fixed-Price Construction), which is included in this purchase order.
- G.1.2 The bonds or alternate performance security shall guarantee the Contractor's execution and completion of the work within the contract time. This security shall also guarantee the correction of any defects after completion, the payment of all wages and other amounts payable by the Contractor under its subcontracts or for labor and materials, and the satisfaction or removal of any liens or encumbrances placed on the work.
- G.1.3 The required securities shall remain in effect in the full amount required until final acceptance of the project by the Government. Upon final acceptance, the penal sum of the performance security shall be reduced to 10% of the contract price. The security shall remain in effect for one year after the date of final completion and acceptance, and the Contractor shall pay any premium required for the entire period of coverage.
- G.2.0 Insurance - The Contractor is required by FAR 52.228-5, "Insurance - Work on a Government Installation" to provide whatever insurance is legally necessary. The Contractor shall at its own expense provide and maintain during the entire performance period the following insurance amounts:
- G.2.1 General Liability (includes premises/operations, collapse hazard, products, completed operations, contractual, independent contractors, broad form property damage, personal injury)

### **1. Bodily Injury on or off the site stated in US Dollars:**

<b>Per Occurrence</b>	<b>\$10,000.00</b>
<b>Cumulative</b>	<b>\$100,000.00</b>

### **2. Property Damage on or off the site in US Dollars:**

<b>Per Occurrence</b>	<b>\$10,000.00</b>
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**Cumulative \$100,000.00**

- G.2.2 The foregoing types and amounts of insurance are the minimums required. The Contractor shall obtain any other types of insurance required by local law or that are ordinarily or customarily obtained in the location of the work. The limit of such insurance shall be as provided by law or sufficient to meet normal and customary claims.
- G.2.3 The Contractor agrees that the Government shall not be responsible for personal injuries or for damages to any property of the Contractor, its officers, agents, servants, and employees, or any other person, arising from an incident to the Contractor's performance of this contract. The Contractor shall hold harmless and indemnify the Government from any and all claims arising there from, except in the instance of gross negligence on the part of the Government.
- G.2.4 The Contractor shall obtain adequate insurance for damage to, or theft of, materials and equipment in insurance coverage for loose transit to the site or in storage on or off the site.
- G.2.5 The general liability policy required of the Contractor shall name "the United States of America, acting by and through the Department of State", as an additional insured with respect to operations performed under this contract.
- G.3.0 Document Descriptions
- G.3.1 Supplemental Documents: The Contracting Officer shall furnish from time to time such detailed drawings and other information as is considered necessary, in the opinion of the Contracting Officer, to interpret, clarify, supplement, or correct inconsistencies, errors or omissions in the Contract documents, or to describe minor changes in the work not involving an increase in the contract price or extension of the contract time. The Contractor shall comply with the requirements of the supplemental documents, and unless prompt objection is made by the Contractor within 20 days, their issuance shall not provide for any claim for an increase in the Contract price or an extension of contract time.
- G.3.1.1 Record Documents. The Contractor shall maintain at the project site:
- (1) a current marked set of Contract drawings and specifications indicating all interpretations and clarification, contract modifications, change orders, or any other departure from the contract requirements approved by the Contracting Officer; and,
  - (2) a complete set of record shop drawings, product data, samples and other submittals as approved by the Contracting Officer.
- G.3.1.2 "As-Built" Documents: After final completion of the work, but before final acceptance thereof, the Contractor shall provide:

- (1) a complete set of "as-built" drawings, based upon the record set of drawings, marked to show the details of construction as actually accomplished; and,
- (2) record shop drawings and other submittals, in the number and form as required by the specifications.

- G.4.0 Laws and Regulations - The Contractor shall, without additional expense to the Government, be responsible for complying with all laws, codes, ordinances, and regulations applicable to the performance of the work, including those of the host country, and with the lawful orders of any governmental authority having jurisdiction. Host country authorities may not enter the construction site without the permission of the Contracting Officer. Unless otherwise directed by the Contracting Officer, the Contractor shall comply with the more stringent of the requirements of such laws, regulations and orders and of the contract. In the event of a conflict between the contract and such laws, regulations and orders, the Contractor shall promptly advise the Contracting Officer of the conflict and of the Contractor's proposed course of action for resolution by the Contracting Officer.
- G.4.1 The Contractor shall comply with all local labor laws, regulations, customs and practices pertaining to labor, safety, and similar matters, to the extent that such compliance is not inconsistent with the requirements of this contract.
- G.4.2 The Contractor shall give written assurance to the Contracting Officer that all subcontractors and others performing work on or for the project have obtained all requisite licenses and permits.
- G.4.3 The Contractor shall submit proper documentation and evidence satisfactory to the Contracting Officer of compliance with this clause.
- G.5.0 Construction Personnel - The Contractor shall maintain discipline at the site and at all times take all reasonable precautions to prevent any unlawful, riotous, or disorderly conduct by or among those employed at the site. The contractor shall ensure the preservation of peace and protection of persons and property in the neighborhood of the project against such action. The Contracting Officer may require, in writing, that the Contractor removed from the work any employee that the Contracting Officer deems incompetent, careless, insubordinate or otherwise objectionable, or whose continued employment on the project is deemed by the Contracting Officer to be contrary to the Government's interests.
- G.5.1 If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.
- G.5.2 After award, the Contractor has **(5) five calendar days** to submit to the Contracting Officer a list of workers and supervisors assigned to this project for the Government to conduct all necessary security checks. It is anticipated that security checks will take

approximately 30 days to perform. For each individual the list shall include:

- (a) **Full Name**
- (b) **Place and Date of Birth**
- (c) **Current Address**
- (d) **Identification number (*Jinsya or passport*)**
- (e) **Vehicle make, model, color and license plate number**

Failure to provide any of the above information may be considered grounds for rejection and/or re submittal of the application. Once the Government has completed the security screening and approved the applicants a badge will be provided to the individual for access to the site. This badge may be revoked at any time due to the falsification of data, or misconduct on site.

G.5.3 The Contractor shall provide an English speaking supervisor on site at all times. This position is considered as key personnel under this purchase order.

G.6.0 Materials and Equipment - All materials and equipment incorporated into the work shall be new and for the purpose intended, unless otherwise specified. All workmanship shall be of good quality and performed in a skillful manner that will withstand inspection by the Contracting Officer.

G.7.0 Special Warranties

G.7.1 Any special warranties that may be required under the contract shall be subject to the stipulations set forth in 52.246-21, "Warranty of Construction", as long as they are not in conflict.

G.7.2 The Contractor shall obtain and furnish to the Government all information required to make any subcontractor's, manufacturer's, or supplier's guarantee or warranty legally binding and effective. The contractor shall submit both the information and the guarantee or warranty to the Government in sufficient time to permit the Government to meet any time limit specified in the guarantee or warranty, but not later than completion and acceptance of all work under this contract.

G.8.0 Equitable Adjustments

Any circumstance for which the contract provides an equitable adjustment that causes a change within the meaning of paragraph (a) of the "Changes" clause shall be treated as a change under that clause; provided, that the Contractor gives the Contracting Officer prompt written notice (within 20 days) stating:

- (a) the date, circumstances, and applicable contract clause authorizing an equitable adjustment and

- (b) that the Contractor regards the event as a changed condition for which an equitable adjustment is allowed under the contract

The Contractor shall provide written notice of a differing site condition within 10 calendar days of occurrence following FAR 52.236-2, Differing Site Conditions.

#### G.9.0 Zoning Approvals and Permits

The Government shall be responsible for:

- obtaining proper zoning or other land use control approval for the project
- obtaining the approval of the Contracting Drawings and Specifications
- paying fees due for the foregoing; and,
- for obtaining and paying for the initial building permits.

**H. CLAUSES****52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://acquisition.gov/far/index.html> or, <http://farsite.hill.af.mil/search.htm>

These addresses are subject to change. If the Federal Acquisition Regulation (FAR) is not available at the locations indicated above, use the Dept. of State Acquisition Website at <http://www.statebuy.state.gov> to see the links to the FAR. You may also use an Internet “search engine” (e.g., Yahoo, Excite, Alta Vista, etc.) to obtain the latest location of the most current FAR.

**FEDERAL ACQUISITION REGULATION (48 CFR CH. 1)**

<u>Clause</u>	<u>Title and Date</u>
52.204-9	PERSONAL IDENTIFICATION VERIFICATION OF CONTRACTOR PERSONNEL (JAN 2011)
52.204-10	Reporting Executive Compensation and First-Tier Subcontract Awards (JUL 2010)
52.209-6	Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (DEC 2010)
52.213-4	Terms and Conditions-Simplified Acquisitions (Other than Commercial Items) (AUG 2011)
52.222-1	Notice to the Government of Labor Disputes (FEB 1997)
52.222-19	Child Labor – Cooperation with Authorities and Remedies (AUG 2010)
52.222-50	COMBATING TRAFFICKING IN PERSONS (FEB 2009)
52.223-18	Encouraging Contractor Policies to Ban Text Messaging While Driving (AUG 2011)
52.225-10	Notice of Buy American Act/Balance of Payments Program— Construction Materials (FEB 2000)
52.225-13	Restrictions on Certain Foreign Purchases (JUN 2008)
52.225-14	Inconsistency Between English Version and Translation of Contract (AUG 1989)
52.225-19	Contractor Personnel in a Designed Operational Area or Supporting a Diplomatic Mission Outside the United States (MAR 2008)
52.228-3	Workers' Compensation Insurance (Defense Base Act) (Apr 1984)
52.228-4	Workers' Compensation and War-Hazard Insurance Overseas (APR 1984)
52.228-5	Insurance - Work on a Government Installation (JAN 1997)
52.228-11	Pledges of Assets (SEP 2009)
52.228-13	Alternative Payment Protection (JUL 2000)

52.229-6	Taxes - Foreign Fixed-Price Contracts (JUN 2003)
52.232-5	Payments under Fixed-Price Construction Contracts (SEP 2002)
52.232-8	Discounts for Prompt Payment (FEB 2002)
52.232-11	Extras (APR 1984)
52.232-18	Availability of Funds (APR 1984)
52.232-24	Prohibition of Assignment of Claims (JAN 1986)
52.232-27	Prompt Payment for Construction Contracts (OCT 2008)
52.232-34	Payment by Electronic Funds Transfer – Other than Central Contractor Registration (MAY 1999)
52.233-1	Disputes (JUL 2002) Alternate I (DEC 1991)
52.233-3	Protest after Award (AUG 1996)
52.236-2	Differing Site Conditions (APR 1984)
52.236-3	Site Investigation and Conditions Affecting the Work (APR 1984)
52.236-5	Material and Workmanship (APR 1984)
52.236-6	Superintendence by the Contractor (APR 1984)
52.236-7	Permits and Responsibilities (NOV 1991)
52.236-8	Other Contracts (APR 1984)
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements (APR 1984)
52.236-10	Operations and Storage Areas (APR 1984)
52.236-11	Use and Possession Prior to Completion (APR 1984)
52.236-12	Cleaning Up (APR 1984)
52.236-14	Availability and Use of Utility Services (APR 1984)
52.236-15	Schedules for Construction Contracts (APR 1984)
52.236-21	Specifications and Drawings for Construction (FEB 1997)
52.236-26	Preconstruction Conference (FEB 1995)
52.242-14	Suspension Of Work (APR 1984)
52.243-4	Changes (JUNE 2007)
52.243-5	Changes and Changed Conditions (APR 1984)
52.244-6	Subcontracts for Commercial Items (DEC 2010)
52.245-9	Use & Charges (AUG 2010)
52.246-12	Inspection of Construction (AUG 1996)
52.246-21	Warranty of Construction (APR 1984)
52.249-2	Termination for Convenience of the Government (Fixed-Price) (MAY 2004) Alternate I (APR 1984)
52.249-14	Excusable Delay (APR 1984)
52.249-10	Default (Fixed-Price Construction) (APR 1984)

The following clauses are set forth in full text:

DEPARTMENT OF STATE ACQUISITION REGULATION (DOSAR) CLAUSES

652.204-70 DEPARTMENT OF STATE PERSONAL IDENTIFICATION CARD ISSUANCE PROCEDURES (MAY 2011)

(a) The Contractor shall comply with the Department of State (DOS) Personal Identification Card Issuance Procedures for all employees performing under this contract who require frequent and continuing access to DOS facilities, or information systems. The Contractor shall insert this clause in all subcontracts when the subcontractor's employees will require frequent and continuing access to DOS facilities, or information systems.

(b) The DOS Personal Identification Card Issuance Procedures may be accessed at <http://www.state.gov/m/ds/rls/rpt/c21664.htm> .

(End of clause)

CONTRACTOR IDENTIFICATION (JULY 2008)

Contract performance may require contractor personnel to attend meetings with government personnel and the public, work within government offices, and/or utilize government email.

Contractor personnel must take the following actions to identify themselves as non-federal employees:

- 1) Use an email signature block that shows name, the office being supported and company affiliation (e.g. "John Smith, Office of Human Resources, ACME Corporation Support Contractor");
- 2) Clearly identify themselves and their contractor affiliation in meetings;
- 3) Identify their contractor affiliation in Departmental e-mail and phone listings whenever contractor personnel are included in those listings; and
- 4) Contractor personnel may not utilize Department of State logos or indicia on business cards.

(End of clause)

DOSAR 652.236-70 ACCIDENT PREVENTION (APR 2004)

(a) *General.* The contractor shall provide and maintain work environments and procedures which will safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to contractor operations and activities; avoid interruptions of Government operations and delays in project completion dates; and, control costs in the performance of this contract. For these purposes, the contractor shall:

- (1) Provide appropriate safety barricades, signs and signal lights;
- (2) Comply with the standards issued by any local government authority having jurisdiction over occupational health and safety issues; and,

(3) Ensure that any additional measures the contracting officer determines to be reasonably necessary for this purpose are taken.

(4) For overseas construction projects, the contracting officer shall specify in writing additional requirements regarding safety if the work involves:

(i) Scaffolding;

(ii) Work at heights above two (2) meters;

(iii) Trenching or other excavation greater than one (1) meter in depth;

(iv) Earth moving equipment;

(v) Temporary wiring, use of portable electric tools, or other recognized electrical hazards. Temporary wiring and portable electric tools require the use of a ground fault circuit interrupter (GFCI) in the affected circuits; other electrical hazards may also require the use of a GFCI;

(vi) Work in confined spaces (limited exits, potential for oxygen less than 19.5 percent or combustible atmosphere, potential for solid or liquid engulfment, or other hazards considered to be immediately dangerous to life or health such as water tanks, transformer vaults, sewers, cisterns, etc.);

(vii) Hazardous materials – a material with a physical or health hazard including but not limited to, flammable, explosive, corrosive, toxic, reactive or unstable, or any operations which creates any kind of contamination inside an occupied building such as dust from demolition activities, paints, solvents, etc.; or

(viii) Hazardous noise levels.

(b) *Records.* The contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to or theft of property, materials, supplies, or equipment. The contractor shall report this data in the manner prescribed by the contracting officer.

(c) *Subcontracts.* The contractor shall be responsible for its subcontractors' compliance with this clause.

(d) *Written program.* Before commencing work, the contractor shall:

(1) Submit a written plan to the contracting officer for implementing this clause. The plan shall include specific management or technical procedures for effectively controlling hazards associated with the project; and,

- (2) Meet with the contracting officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

(e) *Notification.* The contracting officer shall notify the contractor of any non-compliance with these requirements and the corrective actions required. This notice, when delivered to the contractor or the contractor's representative on site, shall be deemed sufficient notice of the non-compliance and corrective action required. After receiving the notice, the contractor shall immediately take corrective action. If the contractor fails or refuses to promptly take corrective action, the contracting officer may issue an order suspending all or part of the work until satisfactory corrective action has been taken. The contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any suspension of work order issued under this clause.  
(End of clause)

#### 652.242-73 AUTHORIZATION AND PERFORMANCE (AUG 1999)

(a) The contractor warrants the following:

- (1) That it has obtained authorization to operate and do business in the country or countries in which this contract will be performed;
- (2) That it has obtained all necessary licenses and permits required to perform this contract; and,
- (3) That it shall comply fully with all laws, decrees, labor standards, and regulations of said country or countries during the performance of this contract.

(b) If the party actually performing the work will be a subcontractor or joint venture partner, then such subcontractor or joint venture partner agrees to the requirements of paragraph (a) of this clause.

#### 652.243-70 NOTICES (AUG 1999)

Any notice or request relating to this contract given by either party to the other shall be in writing. Said notice or request shall be mailed or delivered by hand to the other party at the address provided in the schedule of the contract. All modifications to the contract must be made in writing by the contracting officer.

#### 652.229-71 PERSONAL PROPERTY DISPOSITION AT POSTS ABROAD (AUG 1999)

Regulations at 22 CFR Part 136 require that U.S. Government employees and their families do not profit personally from sales or other transactions with persons who are not themselves entitled to exemption from import restrictions, duties, or taxes. Should the contractor experience importation or tax privileges in a foreign country because of its contractual relationship to the United States Government, the contractor shall observe the requirements of 22 CFR Part 136 and all policies, rules, and procedures issued by the chief of mission in that foreign country.

652.228-71 WORKER'S COMPENSATION INSURANCE (DEFENSE BASE ACT) - SERVICES (JUN 2006)

(a) This clause supplements FAR 52.228-3. For the purposes of this clause, "covered contractor employees" includes the following individuals:

(1) United States citizens or residents;

(2) Individuals hired in the United States or its possessions, regardless of citizenship; and

(3) Local nationals and third country nationals where contract performance takes place in a country where there are no local workers compensation laws.

(b) The Contractor shall procure Defense Base Act (DBA) insurance pursuant to the terms of the contract between the Department of State and the Department's DBA insurance carrier for covered contractor employees, unless the Contractor has a DBA self-insurance program approved by the Department of Labor. The Contractor shall submit a copy of the Department of Labor's approval to the contracting officer upon contract award, if applicable.

(c) The current rate under the Department of State contract is \$5.50 of compensation for construction.

(d) The Contractor shall insert a clause substantially the same as this in all subcontracts. The Contractor shall require that subcontractors insert a similar clause in any of their subcontracts.

(e) Should the rates for DBA insurance coverage increase or decrease during the performance of this contract, the contracting officer shall modify this contract accordingly.

(f) The Contractor shall demonstrate to the satisfaction of the contracting officer that the equitable adjustment as a result of the insurance increase or decrease does not include any reserve for such insurance. Adjustment shall not include any overhead, profit, general and administrative expenses, etc.

(g)(1) Section 16 of the State Basic Authorities Act (22 U.S.C. 2680a), as amended, provides that the Defense Base Act shall not apply with respect to such contracts as the Secretary of State determines are contracts with persons employed to perform work for the Department of State on an intermittent basis for not more than 90 days in a calendar year. "Persons" includes individuals hired by companies under contract with the Department. The Procurement Executive has the authority to issue the waivers for Contractor employees who work on an intermittent or short-term basis.

(2) The Contractor shall submit waiver requests to the contracting officer. The request shall contain the following information:

(i) Contract number;

(ii) Name of Contractor;

(iii) Brief description of the services to be provided under the contract and country of performance;

(iv) Name and position title of individual(s);

(v) Nationality of individual(s) (must be U.S. citizen or U.S. resident);

(vi) Dates (or timeframe) of performance at the overseas location; and,

(vii) Evidence of alternative worker's compensation coverage for these employees (e.g., evidence that the State worker's compensation program covers workers on short-term foreign assignments).

(3) The contracting officer shall provide to the Contractor the original of the approved or disapproved document and maintain a copy in the contract file.

(End of clause)

## I. LIST OF ATTACHMENTS

<u>ATTACHMENT NO.</u>	<u>DESCRIPTION OF ATTACHMENT</u>	<u>NO.PAGES</u>
Attachment 1	Sample Bank Letter of Guaranty	1
Attachment 2	Breakdown of Price by Divisions of Specifications	1
Attachment 3	Drawings	11
Attachment 4	Specifications	9
Attachment 5	Defense Base Act Insurance Information	1
Attachment 6	OBO NEC Specifications	63

**ATTACHMENT #1**  
**SAMPLE LETTER OF BANK GUARANTY**

Place [        ]

Date [        ]

Contracting Officer  
U.S. Embassy, Baghdad, Iraq

Letter of Guaranty No. \_\_\_\_\_

SUBJECT: Performance and Guaranty

The Undersigned, acting as the duly authorized representative of the bank, declares that the bank hereby guarantees to make payment to the Contracting Officer by check made payable to the Treasurer of the United States, immediately upon notice, after receipt of a simple written request from the Contracting Officer, immediately and entirely without any need for the Contracting Officer to protest or take any legal action or obtain the prior consent of the Contractor to show any other proof, action, or decision by another authority, up to the sum of [Amount equal to 20% of the contract price in U.S. dollars during the period ending with the date of final acceptance and 10% of the contract price during contract guaranty period], which represents the deposit required of the contractor to guarantee fulfillment of his obligations for the satisfactory, complete, and timely performance of the said contract [*contract number*] for [*description of work*] at [*location of work*] in strict compliance with the terms, conditions and specifications of said contract, entered into between the Government and [*name of contractor*] of [*address of contractor*] on [*contract date*], plus legal charges of 10% per annum on the amount called due, calculated on the sixth day following receipt of the Contracting Officer's written request until the date of payment.

The undersigned agrees and consents that said contract may be modified by Change Order or Supplemental Agreement affecting the validity of the guaranty provided, however, that the amount of this guaranty shall remain unchanged.

The undersigned agrees and consents that the Contracting Officer may make repeated partial demands on the guaranty up to the total amount of this guaranty, and the bank will promptly honor each individual demand.

This letter of guaranty shall remain in effect until 3 months after completion of the guaranty period of Contract requirement.

\_\_\_\_\_  
Depository Institution: [*Name*]

Address:

Location: \_\_\_\_\_

Representative(s): \_\_\_\_\_

State of Inc.: \_\_\_\_\_

\_\_\_\_\_

Corporate Seal:

\_\_\_\_\_

Certificate of Authority is attached evidencing authority of the signer to bind the bank to this document.

**ATTACHMENT #2**

UNITED STATES DEPARTMENT OF STATE  
BREAKDOWN OF PRICE BY DIVISIONS OF SPECIFICATIONS

(1) DIVISION/DESCRIPTION (2) LABOR (3) MATERIALS (4) OVERHEAD (5) PROFIT (6) TOTAL

---

1 General Requirement  
2. Site Work

---

3. Concrete  
4. Masonry

---

5. Metals  
6. Wood and Plastic

---

7. Thermal and Moisture  
8. Doors and Windows

---

9. Finishes  
10. Specialties

---

11. Equipment  
12. Furnishings

---

13. Special Construction  
14. Conveying Systems

---

15. Mechanical  
16. Electrical

---

TOTAL:

Allowance Items:

PROPOSAL PRICE TOTAL:

---

Alternates (list separately do not total)

---

*Offeror:*

*Date*

PRICE BREAKDOWN BY DIVISION OF SPECIFICATION ITEMS

**ATTACHMENT #3**  
Drawings (10)  
*[Will be provided at site visit]*

- T1 Title Page
- A0 Location Plan
- A1 Site Plan
- A2 Excising Elevations
- A3 Gators Parking Layout
- A4 Pavement Section
- A5 Approach Plan
- A6 Curb and Gutter Detail, Legend
- A7 Concrete Details
- A8 Concrete Notes
- A9 Concrete Expansion Joint

**ATTACHMENT #4**

STATEMENT of WORK



CONTRACT DOCUMENTS  
For

**Gator Parking Lot**

**U.S. EMBASSY BAGHDAD, IRAQ**

Statement of Work

**Specification Sections**

Section 01521 – Construction Safety and Occupational Health  
Section 01771 – Closeout Procedures  
Section 02300 – Earthwork  
Section 02751 – Cement Concrete Pavement  
Section 02764 – Joint Sealants  
Section 03300 – Cast-in-place concrete

Drawings

T1 Title Page  
A0 Location Plan  
A1 Site Plan  
A2 Excising Elevations  
A3 Gators Parking Layout  
A4 Pavement Section  
A5 Approach Plan  
A6 Curb and Gutter Detail, Legend  
A7 Concrete Details  
A8 Concrete Notes  
A9 Concrete Expansion Joint

## **TABLE OF CONTENTS**

1. Project Description
2. General Conditions
3. Bid Form
4. Scope of Work
5. Deliverables
6. Project Schedule
7. Responsibilities & Project Management

### Attachments:

#### Specification Sections

Section 01521 – Construction Safety and Occupational Health  
Section 02300 – Earthwork  
Section 02584 – Underground Ducts and Utility Structures  
Section 02751 – Cement Concrete Pavement  
Section 02764 – Joint Sealants  
Section 03300 – Cast-in-place concrete  
Section 01771 – Closeout Procedures

#### Drawings

T1 Title Page  
A0 Location Plan  
A1 Site Plan  
A2 Excising Elevations  
A3 Gators Parking Layout  
A4 Pavement Section  
A5 Approach Plan

## 1. Project Description

### Project Synopsis

The project will provide concrete parking lot for the gators west of the Chancery building.

### BACKGROUND

Gators are parked randomly blocking the road and the SUV parking west of the chancery building. A new holding and parking area relieve congestion, provide safe pedestrian and vehicle thoroughfare and preserve existing structures.

### SOLUTION

Utilize the paved and unpaved area across the Madison road west of the Chancery to create sufficient waiting and parking areas for gators.

## 2. GENERAL CONDITIONS

- 2.1 Fixed-Price Proposal. The Contractor shall provide one fixed-priced Proposal for the complete Project that includes every aspect of the Work.
- 2.2 Specifications.
- A. The Work shall be governed by the latest edition of the following:
    1. Attached specification sections
    2. United States Department of State Overseas Buildings Operations New Embassy Compound, Baghdad, Iraq Master Specifications
    3. International Building Code
    4. International Mechanical Code
    5. International Plumbing Code
    6. National Electric Code
  - B. Should there be a discrepancy between any of the items noted above, the more stringent shall govern.
  - C. The Contractor is responsible for compliance with all Building Codes; Work not in compliance with the Codes shall be deemed to be unacceptable.
- 2.3 Execution. The Work shall be executed in a diligent and workmanlike manner in accordance with the negotiated fixed-price, this Scope of Work, the Project Schedule, Codes and references noted above, and the laws of the City of Baghdad.
- 2.4 Work Hours. Unless otherwise agreed with Facilities Management, the Work shall be executed during normal Embassy work hours. Night, weekend or holiday work shall not be permitted except as arranged in advance with Facilities Management. Embassy holiday schedule is available from Facilities Management.

- 2.5 Safety.
- A. The Contractor shall be responsible for conducting the work in a manner that ensures the safety of residents, employees and visitors to the Embassy, and the Contractor's employees.
  - B. The Contractor is required to comply with the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521 and the US Army Corps of Engineers Safety and Health requirements Manual. (EM385).
- 2.6 Workforce.
- A. The contractor shall provide all supervision, skilled and unskilled labor needed to perform the work. The Contractor shall provide all skilled and unskilled labor needed to perform the Work.
  - B. In order to comply with the Embassy's minimum escort ratio requirement of one (1) escort to four (4) workers, the Contractor will have on his staff an employee(s) with an RSO vetted "Escort" Badge.
  - C. If the Contractor has no staff with an Escort Badge the Contractor will have 10 days from award to submit the required paperwork. The RSO vetting process could take up to 30 days and must be shown on the Contractors Project Schedule.
  - D. Information for all non-badged staff must be submitted to the COR for processing to allow the workers access to the NEC. This list must be resubmitted every 30 days or when modified.
  - E. If escorts are needed prior to being vetted by the RSO the Contractor may submit a request to the COR for government furnished escorts. The COR will schedule temporary escorts ONLY if they are available and the request must be submitted at least 48 hours in advance of the preferred date.
- 2.7 Subcontractors. Contractor shall be responsible for the conduct and workmanship of Subcontractors engaged in the Project, and for Subcontractors compliance with the terms of this Statement of Work. The Contractor is responsible for the behavior and workmanship of Subcontractors while on Embassy property.
- 2.8 Modification to Contract. The Contractor shall not incur any costs beyond those described in this SOW unless directed otherwise in writing by the Contracting Officer. Any work performed by the Contractor beyond this SOW without written direction from the Contracting Officer will be at the Contractor's own risk and at no cost to the Embassy.
- 2.9 Stop Work. At any time during the Project, the Contracting Officer reserves the right to Stop Work for protection of employees or visitors, security, or any other reason at his/her discretion.
- 2.10 Construction Cost Breakdown. The Government provided "Construction Cost Breakdown" is for bid comparison only, and the contractor is responsible to field measure and to quantify the required materials and tasks as to complete the job.

- 2.11 Submittals. The contractor is responsible to submit shop drawings prior to fabrication and release of any materials for the FAC Engineer's review and approval. The Engineer's review, however, does not relieve of the contractor's responsibility for the engineering work as to provide a complete working system.
- 2.12 Excavation and Utilities. The contractor is responsible to locate all existing utility lines prior to any excavation. Prior to disconnecting any existing utility services, the contractor is responsible to provide 48-hour advance notice to the COR.
- 2.13 Close-out. Prior to final acceptance, the contractor is to submit to the Engineer marked up drawings (As-Builts) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.
- 2.14 Housekeeping. The contractor is responsible to clean up daily after working hours. The Contractor is also responsible for Final Cleaning of the area, ready for use by the Government.

### 3. BID FORM - CONSTRUCTION COST BREAKDOWN

No	Descriptions	Unit	Qty	Unit Price \$	Total Price \$
1	Administration				
A	Mobilization / Demobilization	LS	1		
B	Submittals – product data & shop drawings	LS	1		
	Administration			Sub-Total	
2	Construction Work				
A	Provide concrete parking lot reinforced concrete pad.	LS	1		
B	Close-out	LS	1		
	Construction			Sub-Total	
3	DBA Insurance				
A	Contractor shall cover each of its workers at the site with DBA Workers 'Compensation coverage, and require its subcontractors to do the same. Contractor must furnish certificate evidencing this coverage to Engineer prior to starting work.	LS	1		
	DBA Insurance			Sub-Total	
	Items 1 thru 3			Sub-Total	
				G & A	
				Sub-Total	
				Profit	
4	Basic Bid -			Contract Cost	
A	Bid -			Contract Cost	

#### 4. SCOPE OF WORK

##### 4.1 General Requirements

- A. The Contractor is to provide all labor, logistics, equipment and material for the Work requested based on the attached and referenced drawings and specifications, and the specific instructions noted in this Statement of Work.
- B. Comments below supplement the referenced specifications and are to be incorporated into the Work. If there are any conflicts, the most stringent standard applies.
- C. Except as noted, within 5 days of Notice to Proceed, the contractor shall provide to the COR a project schedule showing start to completion.
- D. Except as noted, within 10 days of NTP, the Contractor shall provide to the COR details of the proposed installation utilizing written description or sketches or both.
- E. The contractor is responsible to dispose of the construction debris outside of the IZ. Include, but not limited to soils, rock excavation, packing materials, scrap steel, and debris generated by project.
- F. The contractor is responsible to properly layout and prepare for the installation based on locations provided by FAC.
- G. Concrete surfacing in the area is assumed adequate to sustain the base plate anchor bolts but must be verified in the field by the Contractor.
- H. When pursuing the work, the contractor is to take extra care as not to damage existing structure.
- I. All construction work shall be in conformance with the following Codes:
  - 1. International Building Code, 2009 Edition plus the 2011 OBO International Code Supplement (ISC).
  - 2. International Mechanical Code, 2009 Edition plus the 2011 OBO International Code Supplement (ISC).
  - 3. International Fire Code, 2009 Edition plus the 2011 OBO International Code Supplement (ISC).
  - 4. National Electric Code, 2008 Edition plus the 2011 OBO International Code Supplement (ISC).
  - 5. National Fire Protection Association, NFPA 101, NFPA 33 and NFPA13.

##### 4.2 Concrete Work: 03300 Cast in Place Concrete

- A. Excavate over the area in which the concrete pad is to be constructed and dispose of the excessive soils outside of the Embassy property.
- B. Using proper methods, compact pad with clean granular soil supplement from exterior sources supplied by the Contractor. Compact sub-base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698. All excess material is to be disposed of as directed by the Engineer.

- C. Sub-base Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve
- D. Provide a layer of crushed base material, maximum size 40mm, under the proposed concrete pad and properly compacted to 95% modified.
- E. Provide 0.6mm layer of polyethylene under proposed concrete slab
- F. Provide concrete with 25MPa 28-day compressive strength, sulphate resisting cement Type 5 and reinforcing steel as per specified at each direction with a 300mm overlap minimum on crushed gravel base provided for in item above.
- G. Concrete surface is to have float finish to provide a nonslip surface (i.e. broom finish) with sloped surface per the drainage plan drawings. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.
- H. Provide and install concrete curbs.
- I. Provide proper elastomeric expansion joint materials where existing and additional concrete pad.
- J. Provide joint sealants, expansion and control joints per the attached specifications
- K. Provide curing of concrete pad with wet burlaps for minimum seven (7) days.
- L. Backfilling and compaction of soils around the pad perimeters shall be included in this SOW.

#### 4.3 Section 01771 – Closeout Procedures

- A. At completion of work, the Contractor shall clean any impacted areas to a condition equal to original condition.
- B. All shipping materials and construction debris are to be disposed of in a legal manner outside of the IZ.
- C. Prior to Final Acceptance the Contractor shall submit to the Contracting Officer Representative marked up drawings (As-Builts) reflecting the work as constructed. The drawings shall be digitally submitted on a CD-ROM in both AutoCAD and PDF format.

5. DELIVERABLES – See Section E.9

6. PROJECT SCHEDULE - RESERVED

Commencement, Prosecution, and Completion of Work - See Section E

7. RESPONSIBILITIES AND PROJECT MANAGEMENT

- 7.1 COR. A Contracting Officers Representative (COR) will be assigned to ensure quality assurance goals are met. The Contractor shall provide the COR access to the site at all times.
- 7.2 Point of Contact (POC). The COR shall be the main point of contact for this Project. The Contractor shall report to the COR on (a) status of the Project, (b) changes in Schedule, (c) accidents and safety issues, (d) disruptions to elevator or utility services; and all other important information pertaining to the Project
- 7.3 English Speaking Representative. The Contractor shall provide an English-speaking representative on-site during all working hours with the authority to make all decisions on behalf of the Contractor and subcontractors.
- 7.4 Management Personnel. The Contractor shall staff the site, full-time, with a competent senior manager who shall perform project management. Remote project management is not an option. This individual shall keep a detailed photographic and written history of the project and shall update the Government weekly.
- 7.5 Site Security. The Contractor is responsible for on-site security as necessary to ensure no unauthorized access to their work sites. The Contractor is 100% responsible for securing their working materials and equipment. Any damage to facilities or infrastructure, which happens due to a lack of security, will be the responsibility of the Contractor to correct.
- 7.6 Contractor's Temporary Work Center. The Contractor will be permitted to use a designated area within the contract limits for operation of his construction equipment and office if warranted. If directed by the Contracting Officer, the Contractor shall not receive additional compensation to relocate his operations. The Contractor is responsible for obtaining any required additional mobilization area above that designated. On completion of the contract, all facilities shall be removed from the mobilization area within 5 days of final acceptance by the Contractor and shall be disposed of in accordance with applicable host government laws and regulations. The site shall be cleared of construction debris and other materials and the area restored to its final grade. The Contractor is responsible for maintaining this area in a clear orderly manner.
- 7.7 Health and Safety.
- A. The Contractor shall be solely responsible for risk assessments, managing health, and safety issues associated with this project. The Contractor must

provide cold water to all workers at the job sites. Based on hazard assessments, Contractors shall provide or afford each affected employee personal protective equipment (PPE) that will protect the employee from hazards. At a minimum PPE shall consist of eye protection, hard hats, and closed toe shoes.

- B. If the workers arrive on-site with sandals or athletic shoes, the Contractor is expected to provide rubber boots to them or send them home. All construction workers and management personnel must wear hard hats at all times on the construction sites. Contractor provided rubber boots and rubber gloves shall be worn when working around concrete placement. Other PPE such as gloves, dust masks, air respirators (sewage work) are also recommended. These items must be provided at the Contractor's expense. Workers may use discretion if they feel unsafe in using the equipment in a hostile environment. Any worker at an elevated location above 4 meters, with the exception of a portable ladder, must be provided and utilize a safety harness.
- C. The Contractor must adhere to the Construction Safety and Occupational Health Regulations of OBO Specification Section 01521.

#### 7.8 Confined Spaces.

- A. Work conducted in confined spaces must have a written permit issued by the POSHO. Confined space is any area limited in dimension or ventilation with restricted means of entry or exit. Identify with the COR any spaces which may be subject to permit.
- B. Permit-required confined spaces include sewers, electrical vaults, utility tunnels, sump pits, mechanical rooms, tanks, pits, excavations deeper than 1200 mm, as well as other types of enclosures. Any space that is accessed by lifting a manhole cover is a permit-required confined space. COR will provide forms for the permit. Contractor is responsible to identify activity in confined space and to apply for the POSHO permit prior to initiating work.



- 7.9 Progress Payments. If the contract awarded expects to receive more than one (1) progress payment, the Contractor must submit a broken out Cost Proposal with a Schedule of Values in order to properly calculate the percentage of contract completion.

**ATTACHMENT #5**  
**DEFENSE BASE INSURANCE INFORMATION**

Contract number: S-AQMMA-08-C-0204

Contractor: Continental Insurance Co.  
 333 S. Wabash Ave  
 Chicago, IL 60604-4107

Agent: Rutherford International  
 5500 Cherokee Avenue, Suite 300  
 Alexandria, VA 22312

Primary Contact: Delia Shontere, Phone (703) 813-6507  
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 E-mail: [sara.payne@rutherford.com](mailto:sara.payne@rutherford.com)

**Rates July 22, 2011 through July 21, 2012:**

**Please note the rates referenced below are subject change due to an ongoing contract audit. If the audit outcome determines different rates are applicable, A/OPE will issue an additional PIB with the rates and guidance.**

Description	Rate
Services	\$4.00 per \$100 of employee compensation
Construction	\$5.50 per \$100 of employee compensation
Security Contractor/Guards without Aviation Exposure within Global War on Terrorism designated areas (currently designated areas are Iraq and Afghanistan)	\$10.50 per \$100 of employee compensation
Aviation Related Services with Aviation Exposure within Global War on Terrorism designated areas (currently designated areas are Iraq and Afghanistan)	\$20.00 per \$100 of employee compensation

**ATTACHMENT # 6**

OBO NEC Specifications

Section 01521 – Construction Safety and Occupational Health

Section 01771 – Closeout Procedures

Section 02300 – Earthwork

Section 02751 – Cement Concrete Pavement

Section 02764 – Joint Sealants

Section 03300 – Cast-in-place concrete

## 01521 Construction Safety and Occupational Health

## SECTION 01521 – CONSTRUCTION SAFETY AND OCCUPATIONAL HEALTH

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Other general provisions of the Contract, including FAR clauses by reference or as amended in Contract Sections B through J, and other Division 1 sections of these Contract Specifications apply to requirements of this Section; this Section in turn applies to the Contract Drawings and to Specification Divisions 2 through 16 to be developed by the Contractor.
- B. Refer to Section 01501, *Temporary Facilities and Controls*, for information on materials, equipment, and electrical power related to temporary facilities.
- C. Regulations and Standards. Governing regulations and specific technical safety and health requirements for work performed at Project Site and incorporated into this construction safety and occupational health program include the following:
  - 1. Latest edition of U.S. Army Corps of Engineers (USACE) Safety and Health Requirements Manual, EM 385-1-1; this document is available at U.S. Government Printing Office, Washington D.C.
  - 2. DOS Foreign Affairs Manual (FAM), Vol. 6, Subchapter 610 "Safety Health and Environmental Management Program" shall apply when and where construction activity impacts on U.S. diplomatic missions and the public.
  - 3. NFPA Code 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations.
  - 4. ANSI A10 series standards for Safety Requirements for Construction and Demolition.
  - 5. NFPA Code 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work.
  - 6. NFPA 10, Standard for Portable Fire Extinguishers.
  - 7. Rigging, by James Headley, Crane Institute of America Publishing Company, Mainland Florida, 2001.
  - 8. 2001 Food Code, Food and Drug Administration, National Technical Information Service Publication PD2002-100819, or latest edition.

## 1.2 SUMMARY

- A. The purpose of this Section is to indicate the nature and scope of Contractor responsibilities for:
  - 1. Construction safety and occupational health for all persons and property at the Project Site.
  - 2. Developing a Construction Accident Prevention Plan (CAPP) for management procedures, operations, training, inspections, assessments and reporting of safety and health matters on site.

### 1.3 DEFINITIONS

***Refer to Contract Glossary for definitions of all safety-related terms, and specifically, Designated Authority, Hazard, Activity Hazard Analysis, Job Hazard Analysis, Qualified Person, and Confined Space.***

### 1.4 SUBMITTALS

- A. Construction Accident Prevention Plan (CAPP).
  - 1. See Attachment "A", *Guidelines for Preparation of the Construction Accident Prevention Plan*. The Construction Accident Prevention Plan (CAPP) is a safety and health policy and program management document. The CAPP shall be job-specific, and shall address unusual or unique aspects of the Project. The CAPP is based upon USACE EM 385-1-1, where it is referred to as "Accident Prevention Plan (APP)".
  - 2. Before beginning work at the Project Site, submit to Project Director/COR for acceptance, a detailed CAPP indicating means which will be provided to ensure: safe access to work areas, protection/safety/health of persons authorized to be at Project Site, and protection of property on and adjacent to Project Site during all phases of construction. Include in the text of CAPP a certified statement executed by Contractor's representative having broad corporate authority indicating full commitment to accepted CAPP, and level of authority in assignment of responsibilities for implementation at the Project Site. Include specific details for meetings, inspections, and training/instruction of Contractor, subcontractor, and separate contractor employees.
- B. Activity and Job Hazard Analysis. Prior to proceeding with performance of work involving unusual construction operations, work practices, or work involving hazardous materials, prepare and submit written analysis to Project Director/COR. Do not proceed with work that has been identified as being potentially hazardous until Project Director/COR has expressed and recorded "no objection" to proposed methods and procedures.
- C. Hazardous Materials. Contractor shall bring to immediate attention of Project Director/COR any material suspected of being hazardous which is encountered in demolition or excavation or used during execution of the work. A determination will be made by Project Director/COR as to whether to have tests performed to ascertain whether the material is hazardous; do not proceed with that part of the work until directed by Project Director/COR.
- D. Hazardous Work Permits. Contractors and subcontractors shall submit written requests to Project Director/COR for all Hazardous Work Permits. Permits are required whenever construction operations include the following:
  - 1. Hot Work. Includes all work that results in open flame such as welding, cutting, brazing, and burning. The Contractor shall provide effective fire protection and prevention at all times during such operations.
  - 2. Confined Space Entry. As defined above, includes work in enclosed areas such as storage tanks, bins, sewers, in-ground vaults, boilers, vessels, tunnels, manholes, pits, etc.

3. Internal Combustion Engines. The use of trucks, forklifts, pumps, or generators powered by petroleum-based fuel when used inside a building, structure, or confined space.
  4. Explosive Actuated Tools. These include powder charged tools manufactured by Hilti, Remington, Ram Set, and others used for fastening purposes.
  5. Explosives. Follow all applicable US and local government regulations. In all cases close coordination with controlling officials shall be effected.
- E. Material Safety Data Sheets (MSDS). Refer to the requirements USACE EM 385-1-1.
  - F. Minutes of Meetings. Record and submit to Project Director/COR minutes of safety related meetings, including weekly tool box safety meetings and meetings of the Joint Safety and Health Committee as described below.
  - G. Records of Inspection. All records of inspection shall be made available to the Project Director/COR. Records of inspection shall include documentation of safety, health, and housekeeping inspections and corrective actions and timetables associated with any deficiencies encountered. Documentation shall also be made available for verification that corrective actions were implemented.
  - H. Accident Investigation and Reporting. Investigate and submit separate accident report on each accident resulting in lost time, disabling/fatal injuries, or damage to vehicles, property, materials, supplies, or to furniture, fixtures, and equipment.
    1. Prepare reports on forms supplied by and in accordance with instructions of Project Director/COR. Include in each report Contractor's recommendations and statement of actions taken to prevent recurrence of accident. Submit report of each accident with 24 hours of accident or mishap, except as otherwise indicated by requirements or governing regulations.
    2. Except as may be otherwise requested by Project Director/COR during time of contract, report major accidents and mishaps on Form (3-92) DS-1663, related instruction sheet available from the Project Director/COR.

## 1.5 PROJECT CONDITIONS

- A. General. Continue management and implementation of safety and health program through time of construction. Comply with conditions existing and developing at Project Site, and with requests of Project Director/COR. Acceptance by Project Director/COR will not relieve the Contractor of overall responsibility for compliance with the strict interpretation of all safety and health requirements of the Contract.
- B. The Project Director/COR reserves the right to suspend work when and where the Contractor's safety and health program is considered to be operating in an inadequate manner, has severe shortcomings, or is not in compliance. This shall include failures to complete required submittals within the time periods specified.

## PART 2 – PRODUCTS

### 2.1 MATERIALS AND EQUIPMENT

Materials, equipment, and workmanship for temporary facilities described in this Section shall be provided and performed in accordance with requirements in Section 01501, Temporary Facilities and Controls.

## PART 3 - EXECUTION

### IMPLEMENTATION OF CONSTRUCTION ACCIDENT PREVENTION PLAN

**Management and Corporate Commitment.** Implementation and management of accepted CAPP shall have full cooperation and support of management at the broad, corporate level. Full cooperation and support shall be expressed by written statement executed by a senior officer of the construction contracting firm/corporation, included with the CAPP as described in this Section.

**Safety and Health Rules.** The Contractor shall establish and enforce clearly written, definitive rules to be followed by employees of Contractor, subcontractors, and separate contractors at Project Site, applicable for performance of each unit of work. Prominently post notices in English, the host national language, and third country languages, if appropriate, stating that failure to comply with safety and health rules may cause immediate termination of employment. Post safety and health rules at the Project Site and provide a copy to each subcontractor prior to the commencement of work.

**Emergency Resources.** The Contractor shall establish, jointly with OBO, a listing of telephone numbers and location of ambulance, physician, hospital, fire, police, and other sources of emergency assistance. This information shall be conspicuously posted in several locations on Project Site.

**Emergency Communication.** Wireless telephone service shall be the preferred method of emergency communications. Emergency communication access shall be available to site medical personnel and nearby medical clinic or hospital.

**Emergency Plans.** The Contractor shall establish, jointly with the Project Director/COR and OBO Site Security Manager, plans to ensure safety of all persons at Project Site in the event of fire or other emergency, and review with all effected employees. Emergency plans shall be tested quarterly using drills to ascertain and ensure their effectiveness. Testing of emergency plans shall be conducted jointly by USG and Contractor staff. Plans shall include: Escape procedures and routes, method of accounting for employees following emergency evacuation, identification of source and location for rescue and medical assistance, means of reporting emergencies, and persons to be contacted for information or clarification. Planning for Project shall include total system response capabilities to minimize consequences of accidents, natural disasters, or other emergencies. On-site emergency planning shall be integrated with off-site emergency support. The number of persons permitted in any location shall be limited to rescue and escape capability, as determined by Contractor and in concurrence with Project Director/COR. Emergency alert systems shall be identified, selected, installed, and tested to alert all persons likely to be affected by existing or imminent disaster conditions, and to alert and summon personnel and equipment comprising emergency response capability.

General Orientation. Contractor to provide orientation for new employees regarding safety and health policies, and work rules.

#### Specific Training.

Provide specific training to supervisory personnel and all craft workers of the Contractor and subcontractors in proper use and care of specific personal protective gear, equipment, and clothing.

Contractor and subcontractor employees shall be trained and supervised by qualified persons to perform, safely and confidently, recognized hazardous work operations and work performed with hazardous conditions to which they have been assigned.

#### Safety and Health Program Manager (SHPM).

Assign to the Project Site a full-time SHPM whose duties shall be the effective implementation, coordination, and enforcement of the CAPP. Provide support to the SHPM for the duration of the Contract. Notices posted at Project Site shall name the SHPM and describe the authority held by the position.

Qualification. The SHPM shall be a qualified, experienced construction industry professional having ability and authority to manage CAPP. The SHPM shall be qualified to anticipate, identify, evaluate, and implement corrective action in relation to potential safety and health hazards and dangerous exposures.

Joint Safety and Health Committee. Establish for the project, a functioning Joint Safety and Health Committee. Membership to include management or supervisory personnel of the Contractor and subcontractors and OBO representatives as may be needed. The Joint Safety and Health Committee, chaired by the SHPM, shall meet at regularly scheduled times and at other times as determined by the Project Director/COR. The committee shall:

Coordinate the management of safety and health activities and actions for effective protection.

Determine implementation of new safety and health measures related to forthcoming construction activities.

Anticipate and analyze potentially hazardous conditions, and implement safe and healthy solutions.

Perform Activity and Job Hazard Analysis for work activities involving unusual construction operations, work practices, or work involving hazardous materials. Develop methods and procedures to reduce identified hazards to greatest extent possible.

#### Inspections.

Frequent safety, health, and housekeeping inspections shall be conducted by qualified persons of temporary structures, fabrication shops, material, machinery and equipment at the Project Site. All inspections shall be documented by qualified persons.

Documentation shall include any deficiencies encountered along with details and timetable for corrective actions.

The SHPM shall be responsible to identify and coordinate all safety, health, and housekeeping inspections.

The SHPM shall be responsible to verify, document, and ensure that all corrective actions have been implemented.

Tool Box Meetings. Contractor shall hold "tool box" safety meetings once each week. Require attendance by all tradespersons, laborers, foremen, and supervisors at Project Site; include those of separate contractors. Discuss current construction operations, analyze hazards, and communicate solutions.

## TOOLS, EQUIPMENT, AND MACHINERY

Quality. Hand tools, power tools, equipment, machinery, materials, and personal protective apparatus shall be of manufacturer listed by U.S. or internationally recognized testing laboratory for specific application for which they are to be used. They shall be quality products recognized for professional construction use, applications, and work practices.

Safe Clearance Procedure. Prior to initial use, and periodically thereafter at times of continued use, provide inspections of construction tools, equipment, and machinery. Do not permit continued use of tools, equipment, and machinery that are not in satisfactory working condition. Immediately upon identification of damage or malfunction, tag and remove from Project Site. Do not allow return of items until repaired or reprocessed in compliance with industry practice. Engage qualified persons to make such inspections and repair. Prepare written records, including recommendations for corrections of defects and misapplication.

### Machinery and Mechanized Equipment.

Prior to being placed in use, all machinery and mechanized equipment shall be inspected and tested by qualified personnel and certified to be in safe operating condition. Records of tests and inspections shall be maintained at the site by the Contractor and shall become part of the official project file.

Tower cranes, crawler cranes, truck and wheel mounted cranes and material hoists shall be erected, tested, maintained, and repaired in accordance with the manufacturer's recommendations. All actions shall be documented.

Tower cranes shall be inspected quarterly for operation and structural integrity in accordance with manufacturer's recommendations.

Hoisting Equipment. Provide general-use manufactured apparatus for hoisting and material handling equipment, suitable for Project configuration, that is, for the number of stories and similar considerations and for the suitable handling of materials, fabrications, tools, equipment, work platforms, and, where applicable, for the transportation of craftspersons between grade and floor levels.

### Walking and Working Surfaces.

Scaffolding shall be a standard, medium- to heavy-duty welded tubular frame or a project-designed steel tube and clamp system. All components shall be manufactured and tested according to international standards. All types of manufactured scaffolding systems shall include the scaffold manufacturer's integrated access stairway sections, handrails, and walking platforms.

For all cast-in-place concrete installations of walls, columns, beams and slabs, provide manufacturer's standard access scaffolding and work platforms which are an integral part of a pre-engineered, reusable, factory built concrete forming/shoring system consisting of pre-fabricated modular metal framed plywood or all metal panels.

Protect openings in floor slabs of more than 0.03 square meters (46 square inches) in area. Provide guardrails at floor slab edges that are not yet permanently walled off, where located more than 1.25 meters (4 feet) above grade or adjoining floor/deck surface.

Access to Construction Operations. Provide ramps, stairs, ladders, and similar devices for craftsperson, inspector, authorized visitor, and USG personnel access and egress.

Noise Reduction. Minimize the generation of noises through the efficient and shielded use of materials, tools, processes and procedures. Restrict the use of noise or impact-producing tools to necessary prosecution of the work. These actions shall seek to minimize complaints from nearby occupancies, and comply with requests of local authorities.

## SITE MAINTENANCE, PROTECTION, AND SANITATION

General. Provide indirect, work-related, temporary support facilities and services as described below in conjunction with performance of work at Project Site.

Comply with Host Country governing regulations as enforced by authorities; including building codes, requirements of utility companies, health/safety regulations by police/rescue/fire departments, environmental protection regulations, and similar applicable regulations.

Inspections. Arrange for required inspections, certifications, and permits, for installation and use of each temporary facility, prior to use; as may be required by governing authorities and franchised service vendors.

Maintain temporary facilities in clean, sanitary, and safe operating conditions; and do not allow conditions of use to become inefficient, overloaded, hazardous, or otherwise deleterious to the USG's interests; comply with the Project Director's/COR's requests.

Fire Protection. Except as otherwise indicated, and in every instance, expedite/complete and place into service permanent fire protection system and equipment. Prior to the time permanent facilities are placed into service, provide temporary fire protection facilities, as will be adequate for conditions at the Project Site. Where possible, arrange jointly with Project Director/COR and local fire department to respond to calls for assistance and service in cases of fire emergency. Provide temporary portable fire extinguishers, complying with applicable provisions of NFPA 10, Standard for Portable Fire Extinguishers, and UL rated; multi-purpose dry chemical type, 5.0 kg size, UL-rated "4-A:60-B:C." Maintain unobstructed access to fire extinguishers and locate at each prime point of access to each story of construction, and at each principal office, lunch room, fabrication shop, storage enclosure, gate/guard house, and similar temporary facility at Project Site. Prohibit smoking, except in designated areas of relatively low fire hazard. During welding, cutting, and burning, comply with NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, in fire-hazardous areas of exposure, provide stand-by fire-protection personnel and adequate supervision of operations.

First Aid. At project sites on which more than 99 and less than 300 persons are employed (greatest number being the total number of employees on a shift), establish and equip, as directed by a licensed physician, a first aid station staffed full time with

a professional nurse trained in emergency response. If medical clinics or hospitals are accessible within five minutes of the project site, the facilities may be approved by a licensed physician for use, in lieu of a first aid station.

**Barricades, Closures, and Traffic Control.** Provide substantial barricade-type closures and rails at locations where encroachment of a physically hazardous condition in construction is possible, for equipment, tradespersons, and others at or adjoining the Project Site. Provide sidewalk bridge type protective structure where traffic, vehicular and pedestrian, cannot be excluded from hazardous areas under and nearby overhead work in progress. Provide appropriate warning signs, flashing-type warning lights, and adequate general lighting at principal barricades which are not intended to be crash-proof. Maintain barricades through periods of exposure to hazardous conditions.

**Roadways and Walkways.** Establish safe roadways and walkways in and around Project Site, and connecting with adjoining public thoroughfares. Provide signage and other markings; including traffic control signage and signals, as may be necessary and useful in controlling traffic and in restricting traffic from passing through other areas. Cooperate with local officials in the establishment and/or adjustment of street entrance/exiting signals and signs. Do not allow established traffic ways to become encumbered or obstructed with work activities, materials, parked vehicles, equipment, and similar elements. In particular, keep established entrance-and-exit passages clear for medical emergencies, escape, fire fighting, and other emergency access and egress.

**Environmental Protection.** Provide facilities and services as may be required by governing authorities to protect the environment; as it may be affected by performance of the work at the Project Site, and elsewhere, wherever work is in progress. Minimize the generation of wastes and avoid the pollution of every element of the environment. Prohibit the discharging and accidental loss of substances from the construction process that could possibly contaminate the atmosphere, surface or ground water, soil or subsoil.

**Excavation and Demolition.**

The Contractor, before commencement of any part of excavation or demolition, shall give any notices required to be given to adjoining landowners or other parties. Contractor shall initiate all necessary protective provisions prior to excavation or demolition of any site improvement.

Before excavation or demolition of any site improvement, Contractor shall examine structural condition of all adjacent structures or infrastructure, whether on site or on adjoining property. Based on examination, where there is reason to believe planned excavation or demolition will cause damage or unsafe conditions to adjacent structures or infrastructure, excavation or demolition operations shall not be performed until means have been provided to insure stability and prevent collapse of adjacent structures or infrastructure. Such means shall consist of sheet piling, shoring, bracing, underpinning, or equivalent.

Other protective provisions shall include, at a minimum, temporary protective coverings or enclosures of adjoining work, warning signs, and similar provisions.

**Dust Control.** Where and when applicable, implement a suitable program for dust control in and around the Project Site, designed to reduce dust generation/ distribution to reasonable level. Coordinate with environmental protection program.

**Rodent, Pest, and Vermin Control.** Employ specialized services to eliminate or minimize the threat of deleterious effects from insects, animals, and other vermin at Project Site. Up to and at the time of substantial completion, the Project and Project Site will be relatively free of entrenched and harbored pests of every description. Employ only environmentally safe methods and products in the control of rodents, pests and other vermin.

**Potable Water.** Where reasonably possible, provide potable water for entire water requirement of construction period. Where and when that is not possible, provide potable water for drinking and other uses where specified; clearly marked with signage in multiple languages as appropriate for site location; with source as Contractor's option: City-controlled piped water, well on site, commercially bottled water, or other reliable source. Demonstrate on a monthly basis to the Project Director/COR that the potable water from all selected sources is safe for human consumption. Sterilize piping of temporary potable water systems prior to use.

#### Construction Site Sanitation and Health Facilities.

##### Toilets Facilities and Restrooms.

Toilet facilities are defined as enclosures containing one or more toilet fixtures or commodes for the purpose of defecation or urination or both. A urinal is a toilet fixture maintained within a toilet room for the sole purpose of urination. A toilet facility or restroom may be a temporary structure, portable units, or a permanent facility.

The Project Site shall be provided with adequate toilet facilities. Separate facilities shall be provided for each sex and properly labeled in English and the commonly understood local language. Pictograms shall be used. The sewage disposal method shall comply with the requirements of the authority having jurisdiction. Toilet facilities shall be provided so as to be readily accessible to all employees. As far as is practicable, toilet facilities shall be located within sixty-one (61) meters (200 feet) of all locations where workers are regularly performing the work. The number of toilet fixtures shall be based on the anticipated maximum number of workers at Project Site. An adequate supply of toilet paper shall be maintained at all times. A hand-washing lavatory shall be provided in close proximity to all toilet facilities.

The construction and installation of toilet facilities shall be accepted by the Project Director/COR and shall be in compliance with, if appropriate, all-applicable local jurisdictional codes. The floors, walls, partition, and doors of all toilet facilities shall be of a hard, impervious finish that can be easily cleaned. Floors shall be concrete. Walls and partitions shall be constructed of concrete masonry units, and doors shall be of metal or solid wood. All surface finishes shall be chosen to facilitate cleaning and the maintenance of the highest standards of sanitation.

Each toilet or commode shall occupy a separate compartment or stall which shall be equipped with a door and latch. Partitions and doors shall be of nonabsorbent

materials. The walls of compartments, stalls, or partitions between the toilets or commodes may be less than the height of room walls, but the top shall not be less than one hundred seventy-three (173) centimeters (5 feet, 8 inches) from the floor and the bottom not more than thirty (30) centimeters (1 foot) above the floor.

In all newly constructed toilet rooms, the floors and exterior walls to a height of fifteen (15) centimeters (6 inches) above the floor shall be of watertight construction to facilitate cleaning and sanitation.

Every toilet fixture, commode, or urinal shall be so installed that the space around and behind the fixture can be easily cleaned.

Where non-sewer waste disposal systems are permitted, these shall be of a type accepted by the local health authorities having jurisdiction. These systems shall be maintained in a sanitary condition.

#### Lavatories and Personal Washing Facilities.

A lavatory is a basin or similar vessel for washing hands, arms, face and head. Adequate facilities for maintaining personal cleanliness shall be provided at the Project Site. Facilities shall be convenient for employee access and shall be maintained in a sanitary condition.

Lavatories shall be provided at or adjacent to all toilet facilities. Lavatories with adequate hot (43°-60°C or 110°-140°F) and cold water shall be provided. Mixing or combination supply fixtures are preferable. Sixty (60) centimeter diameter (24 inch) basin rims shall be considered as equal to one lavatory. In all instances, a dispenser containing a suitable skin cleaning agent shall be provided at each lavatory.

#### Drinking Fountains and Dispensers.

Provide an adequate number of drinking water fountains or dispensers, distributed for convenience and efficiency, around the Project Site and service support areas. Maintain an adequate supply of sanitary disposable paper cups and waste receptacles at each water dispenser.

Provide bottled drinking water where piped potable water service is not available.

#### Shower Facilities.

Where employees are exposed to skin contamination with poisonous, infectious, or irritating material (cement, lime, solvents, etc.), or where unsanitary or unhealthful working conditions require bathing before leaving the Project Site, the Contractor shall provide shower facilities in the ratio of one per each fifteen persons so exposed. Showers shall be supplied with ample hot (43°-60°C or 110°-140°F) and cold water.

A dispenser containing a suitable skin-cleaning agent shall be provided at each shower. Individual hand towels of cloth or paper shall be provided. Proper receptacles or other sanitary means shall be provided for the disposal of used towels. The provision of a loop towel rack for general or common use shall be prohibited as unsanitary.

#### Laundry Facilities.

Provide laundering of work clothing and coveralls that have become contaminated with poisonous, irritating or infectious material (cement, lime, solvents, etc.). The Contractor shall provide clean sets of laundered clothing or coveralls as part of the protective clothing requirement.

Should the process in which the worker is engaged be such that the individual's work clothing becomes wet or has to be washed between shifts, the Contractor shall make such provision to dry such clothing before reuse.

#### Changing Rooms.

Changing or dressing rooms shall be provided whenever it is the local practice or a requirement to change from street clothing to work clothing.

Street and work clothing shall not be stored in contact with each other in changing rooms.

#### Lunch Rooms, Mess Halls, Dining Facilities, and Food Service Operations.

An enclosed facility shall be provided and set aside specifically for employees to eat lunch at the Project Site. The minimum area per person shall be specified as 1.0 square meter or 11 square feet. The Contractor shall provide such enclosed facilities to accommodate at one time 50% of the maximum number of non-office-occupant personnel anticipated and as authorized to be at Project Site.

These facilities shall be equipped with tables and chairs or benches to seat the number of persons anticipated. The Contractor shall specify suitable floor, wall, and ceiling finishes, doors and windows, screening, and suitable fixtures and accessories. The Contractor shall provide general lighting, HVAC system, and drinking fountains or dispensers.

These dining facilities shall be physically separated from toilets at a minimum distance of sixty-one (61) meters (200 feet). Dining facilities shall be physically separated from all locations where there is the threat of exposure to toxic or infectious materials.

Perishable home-prepared lunches are a potential source of food-borne illness when stored at room temperature. Accordingly, the Contractor shall provide refrigeration facilities capable of maintaining a temperature of 7°C or 45°F or lower for the storage of lunches prior to consumption. Should local law require that meals be provided, the Contractor shall accommodate those requirements.

The Contractor shall provide space, utilities, and support services for the installation of vending machines for drinks and incidental foods. The Contractor shall establish, administer, and supervise service contracts with local vending firms. These contracts and the plan for their execution in practice must be cleared by the Project Director/COR and the Site Security Manager.

If the Contractor provides prepared or pre-prepared catered meals at the Project Site, all employee food service facilities and operations shall meet and comply with relevant requirements of the FDA 2001 Food Code or latest edition.

## Waste Handling and Janitorial Services.

General. Provide proper and adequate segregated waste containers for the collection and removal of waste materials in different categories. These include, but are not limited to: hazardous wastes, flammable wastes, sanitary and health-care wastes, garbage, wastes for recycling as required by local authorities, inert and dry wastes, and incidental debris from the construction process. Dispose of general non-organic wastes at seven (7) day intervals. Dispose of organic, garbage, and similar temperature-sensitive wastes at three (3) day intervals when the average outdoors-daily maximum temperature can be expected to be above 18°C. Clean waste containers regularly and adequately. Dispose of wastes in a lawful manner.

Contractor may develop and implement a waste management plan that quantifies material diversion goals and methods of salvage and recycling in order to earn LEED points as described in Contract Section C.

On a daily basis the Contractor shall keep the Project and Construction Site clean and clear of accumulated wastes, including surplus materials, trimmings, incidental demolished work, and construction debris. Clean completed elements and portions of work, and maintain in "broom clean" condition, except as otherwise indicated by the Project Director/COR.

On a daily basis, provide janitorial services, including the restocking of disposable products, for the maintenance of temporary offices, security spaces, toilets, first-aid rooms, lunchrooms, shower/locker rooms, and similar facilities. Scrub toilet and first-aid room fixtures and floors daily, and scrub floors and walls of shower rooms daily. Provide weekly cleaning, damp mopping, or vacuuming, as may be appropriate, for other floors. Provide monthly washing of windows and cleaning of other walls, ceilings, light fixtures, and similar facility surfaces. Comply with the Project Director's/COR's specific requests to maintain facilities in a reasonably clean and sanitary condition at all times. Extend janitorial services to include permanent facilities as may be authorized for use as temporary facilities.

END OF SECTION 01521

<<< The following document is an example of a CAPP >>>

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U.S. DEPARTMENT OF STATE  
OVERSEAS BUILDINGS OPERATIONS

Project Name & CONTRACT No. -----

CONSTRUCTION ACCIDENT PREVENTION PLAN (CAPP)

NAME OF CONTRACTOR:

POLICY.

The (name of Contractor) accident prevention policy, ensures that all of our employees have a firm understanding of our company's position regarding the protection of all persons, public, and property during all phases of new construction and renovation works, of U.S. Department of State buildings. In implementation of the accident prevention policy, (name of Contractor) accepts full responsibility for the establishment and implementation of an effective construction safety and occupational health program at the project site.

PURPOSE.

The Construction Accident Prevention Plan (CAPP), herein, establishes organizational and management elements necessary to implement an effective Safety and Health Program. The CAPP, as a policy and management document, will comply with the latest edition, of the U.S. Army Corps of Engineers Safety And Health Requirements Manual EM 385-1-1.

The objective of (name of Contractor) is to provide for a safe working construction environment, a strong safety awareness by all of our supervisors and workers, and the safe use of tools, machinery and equipment.

REFERENCE DOCUMENTS. The \_\_\_\_\_Project will comply with the following regulations:

- U.S. Army Corps of Engineers, *Safety and Health Requirements Manual*, EM 385-1-1, latest edition.
- U.S. Department of State Foreign Affairs Manual Volume 6 Subchapter 610, *Safety Health and Environmental Management Program*, with latest changes.
- NFPA Code 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*.
- ANSI A10 series standards for Safety Requirements for Construction and Demolition.
- NFPA Code 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*.
- NFPA 70, *National Electrical Code*.
- NFPA 10, *Standard for Portable Fire Extinguishers*.
- *2001 Food Code*, Food and Drug Administration, National Technical Information Service Publication PD2002-100819, or latest edition.

- *Rigging*, by James Headley, Crane Institute of America Publishing Company, Maitland Florida, 2001.

#### ORGANIZATIONAL/ADMINISTRATIVE RESPONSIBILITY FOR CAPP.

Mr./Ms. (name), the Project Manager, has been given full authority, responsibility, and support by (name of Contractor) for the administration and implementation of the CAPP.

#### *Safety and Health Program Manager (SHPM).*

To assist our Project Manager, a qualified Safety and Health Program Manager (SHPM) will be appointed (full time) to administer and implement the (CAPP). The Project Manager and the Safety and Health Program Manager have been delegated with corporate responsibility and authority to identify safe and unhealthful conditions and to take corrective action to abate or eliminate such conditions. The SHPM is a qualified, experienced, construction industry professional possessing the ability and authority to manage this CAPP. The SHPM will anticipate, identify, evaluate, and implement corrective action to abate or reduce potential safety and health hazards and dangerous exposures.

#### *Joint Safety and Health Committee.*

(name of Contractor) will establish for the duration of the project a functional Joint Safety and Health Committee for this project. Membership will be by official appointment and will include supervisory personnel from our company and from our subcontractors. The SHPM will coordinate and delegate the activities of the Committee.

#### *PROGRAM MANAGEMENT REQUIREMENTS.*

##### *Emergency Plans.*

(name of Contractor) will establish jointly with Project Director/COR, in the event of fire or other emergency, Emergency Plans for the safe evacuation of all persons at the Project Site. Emergency Plans that are relative to (name of Contractor) construction operations will be submitted to the Project Director/COR for acceptance. Plans will be tested/evaluated monthly to ascertain their effectiveness.

##### *First Aid Station.*

(name of Contractor) understands that on OBO construction project sites on which more than 99 and less than 300 persons are employed (greatest number being the total number of employees on a shift) at the site, there shall be established and equipped, as directed by a licensed physician, a first aid station staffed full time with a professional nurse trained in emergency response. If medical clinics or hospitals are accessible within five minutes of the project site, the facilities may be approved by a licensed physician for use, in lieu of a first aid station.

##### *Activity and Worker Hazard Analysis.*

The Project Manager, SHPM, and the Joint Safety and Health Committee, will assess safety and health issues associated with special construction activities in the schedule. Prior to each major phase of the work, the Project Manager will prepare and submit an Activity and Worker Hazard Analysis report to the Project Director/COR for acceptance.

*Safety Training and Orientation.*

"New Hire" training will be conducted by \_\_\_\_\_. New employees to the Project Site will be required to attend an employee safety orientation program, at which time, safety rules will be explained by the SHPM.

A copy of the project safety rules will be given to each new employee, who will be required to sign a statement stating that he/she has been instructed in the safety philosophy of the company, have been given a copy of the project safety rules, and understand them.

In addition, all employees will observe and obey rules at Post governing the conduct and behavior of persons performing construction work in an occupied U.S. Department of State facility.

*Violation of Safety Rules.*

(name of Contractor) will initiate a procedure/mechanism to discipline all workers who repeatedly violate safety rules. (Example: the procedure may include the termination of an employee after one verbal and two written warnings for the same violation).

*Tool Box Safety Meetings – Coordination and Communication.*

To ensure better safety and health awareness, (name of Contractor) will communicate, through weekly Tool Box meetings, a corporate safety and health philosophy to all construction personnel. Records of attendance and documentation of topics for each meeting will be kept. Topics will include but not be limited to protection of employees, personal protective clothing/equipment, fall protection, fire prevention, fire protection, emergency evacuation procedures, and the safe use of power tools and machinery.

*Material Safety Data Sheets.*

Material Safety Data Sheets (MSDS) for all hazardous chemical substances in use on Project Site will be obtained from the manufacturer and kept on Project Site. Workers who are assigned to work with hazardous substances will be trained in the proper procedures and precautionary measures to be taken while using such substances/products.

*Safe Clearance Procedure.*

Prior to initial use, and periodically thereafter at times of continued use, (name of Contractor) will inspect all construction tools, equipment and machinery. (name of Contractor) will not permit continued use of tools equipment and machinery which are not in good condition. Damaged or malfunctioning tools or equipment will be tagged and immediately removed from service.

*Hazardous Work Permits.*

(name of Contractor) and subcontractors will submit written requests to Project Director/COR for Hazardous Work Permits when construction operations include the following:

1. Hot Work. Work that results in open flames such as welding, cutting, brazing and burning. (name of Contractor) will provide effective fire protection and prevention at all times during such operations.
2. Confined Space Entry. Work in enclosed areas such as storage tanks, bins, sewers, in-ground vaults, boilers, tunnels, manholes etc.

3. Internal Combustion Engines. Use of trucks, forklifts, pumps, or generators, powered by petroleum-based fuel, when inside a building structure or confined space.
4. Explosive Actuated Tools. Powder charged tools (Hilti, Remington, Ram Set and other manufactures) used for fastening purposes.

*Temporary Electrical Power.*

(name of Contractor), if requested, will submit to Project Director/COR, for acceptance, a plan of proposed temporary power distribution and the means of protection of all circuits including receptacles, grounding, and ground fault circuit interrupters.

*Inspections.*

Under the direction of the SHPM, (name of Contractor) will provide for frequent safety, health, and housekeeping inspections of Project Site. Temporary structures, fabrication shops, material storage areas, all machinery, tools and equipment will be inspected to ensure compliance with USACE Safety and Health Requirements Manual EM 385-1-1. Records of inspections, and a timetable for corrective action will be maintained.

*Reporting Work Related Injuries.*

All work related injuries will be reported to Project Director/COR. A daily log of first aid treatment will be kept at the location of the first aid station. Injuries requiring off-site medical treatment will be reported to Project Director/COR. An accident report will be completed by a supervisor or foreman for each work related injury or illness resulting in lost time.

*Accident Investigation.*

All accidents involving death, multiple hospitalizations, or excessive property damage will be officially investigated and reported under the authority and direction of the Project Director/COR.

END OF ATTACHMENT "A" SECTION 01521

## SECTION 01771 – CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Other general provisions of the Contract, including FAR clauses by reference or as amended in Contract Sections B through J, and other Division 1 sections of these Contract Specifications apply to requirements of this Section; this Section in turn applies to the Contract Drawings and to Specification Divisions 2 through 16 to be developed by the Contractor.
- B. Refer to individual technical specification sections of Divisions 2 through 16 which shall be developed by the Contractor during the design phase, for unique completion and closeout requirements for each unit of work, including unique closeout submittal requirements.
- C. Refer to Section 01101, *Construction Execution and Coordination*, for information related to field engineering activities, construction coordination documentation, and handling of government-furnished furniture.
- D. Refer to Section 01331, *Construction Submittals*, for information related to submittal of record documents.
- E. Refer to Section 01401, *Contractor's Quality Control*, for information related to development of the punch list (Schedule of Defects).
- F. Refer to Section 01501, *Temporary Facilities and Controls*, for information related to removal and demolition of temporary facilities and restoration of permanent facilities.
- G. Refer to Section 01781, *Operation and Maintenance Data*, for information related to warranties and maintenance agreements and preparation of Operation and Maintenance Data.
- H. Refer to Section 01811, *Start-up and Commissioning*, for information related to commissioning requirements and commencement of warranty periods.
- I. Refer to Section 01821, *Demonstration and Training*, for information related to training records.

#### 1.2 SUMMARY

- A. The requirements of this Section relate, primarily, to administration and procedures for the following:
  - 1. Achieving "Substantial Completion"
  - 2. Achieving "Final Acceptance"
  - 3. Record documents and final submittals
  - 4. Warranty management
  - 5. Other closeout and turnover activities

### 1.3 SUBMITTALS

- A. In accordance with the details described in this section, Contractor shall submit the following:
1. Request for inspection and Certification of Substantial Completion
  2. Request for final inspection
  3. Final Record Documents

### 1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. General: Before or concurrently with request to the Project Director/COR for inspection and Certification of Substantial Completion, either on the entire work of the Contractor or each defined portion thereof, complete the following related to that part of the work:
1. In the Progress Payment Request, which coincides with or follows the date claimed for Substantial Completion, either show "100 percent complete" or list non-substantial items of work that remain incomplete, along with percentage completion and explanation for being incomplete; include copies of supporting documentation.
  2. In accordance with Section 01781, *Operation and Maintenance Data*, and similar sections, submit specific warranties, workmanship/maintenance bonds, maintenance agreements, certifications, and similar documents relating to continuing obligations.
  3. Obtain and submit releases, enabling the USG's full-and unrestricted use of the work and access to services and utilities, including occupancy permits, operating certificates, and similar documents.
  4. Submit record documents as described below to the Project Director/COR.
  5. Deliver in the manner requested by the Project Director/COR, operating/maintenance tools, surplus Government-furnished materials, spare parts, required extra stock of materials (attic stock), keys to locks, and similar required physical items.
  6. Submit Commissioning Report in accordance with Section 01811, *Start-up and Commissioning*. Commissioning activities not completed prior to substantial completion shall be recorded as punch list items on the Schedule of Defects.
  7. Make final changeover from temporary facilities/services to permanent, including lock cylinders and similar items. Advise everyone at Project Site of precise time for each changeover; comply with the Project Director's/COR's requests on timing of security-related changeovers.
  8. Complete start-up testing of systems, and instruction of the USG's operating and maintenance personnel.
  9. Remove temporary facilities, construction tools and equipment, mock-ups, rejected materials, and similar items of construction not incorporated into permanent work; including surplus materials.
  10. Report uninstalled government-furnished furniture and arrange for transfer to post as described below.

11. Make physical adjustments, correct minor defects, touch-up finishes, lubricate operating parts, and clean equipment and surfaces as required for use, occupancy, and operation.
  12. Provide certification that asbestos and lead paint were not introduced as building material during the construction of the building in accordance with requirements of Contract Section H.
- B. The Project Director/COR will respond to each request by Contractor for certification of Substantial Completion, either by promptly providing a statement of known deficiencies in the work, or by proceeding with requested initial inspection of that part of the work.
1. Substantial Items. Following inspections, the Project Director/COR will submit to the Contractor a list of all work items deemed *substantial* and not completed, not to the agreed upon standard of quality or performance, or patently deficient. These shall be completed, corrected, or otherwise brought up to standard prior to issuance of any requested certification.
  2. After effecting completion and corrective actions, the Contractor shall request re-inspection, in writing, of the Project Director/COR.
  3. When completion and corrective actions have been made, the Project Director/COR will prepare and issue a Certificate of Substantial Completion. This Certificate may or may not be accompanied by a listing of non-substantial items, as defined below.
  4. Non-Substantial Items. The Certificate of Substantial Completion may be issued with a list of all remaining omissions, deficiencies, and patent defects deemed by the Project Director/COR to be *non-substantial*. These items shall be completed and corrected prior to the issuance of the Certificate of Final Acceptance.
  5. All omissions, deficiencies, and patent defects will be included in initial and subsequent punch lists (Schedules of Defects) and shall be a matter of project record. Initial punch lists shall be prepared as described in Section 01401, *Contractor's Quality Control*. All punch list items shall be documented and resolved prior to the issuance of the Certificate of Final Acceptance.
  6. In addition to the above actions and remedies, the Contractor shall be responsible for all omissions, deficiencies, patent *and latent* deficiencies not uncovered in the course of the several inspections. The Project Director/COR shall determine applicability of these items to the agreed upon standards of contract performance.

## 1.5 PROCEDURES FOR FINAL ACCEPTANCE

- A. General. The Contractor shall notify the Project Director/COR at least fifteen (15) calendar days prior to the point in time at which the Contractor believes all Contract work shall be ready for final USG inspection, systems validation, and testing. The USG will proceed without delay to initiate preliminary inspections and testing. The USG shall then promptly notify the Contractor in writing should it determine that portions of work not be ready for final acceptance. Further, the

USG shall notify the Contractor whether any such portion of work may separately delay final acceptance beyond the final acceptance of other portions of work.

- B. Prior to Final Inspection and Testing. The Contractor shall complete the following before requesting final inspection and testing of the work:
1. Complete and correct all Schedule of Defects (Punch List) work items determined to be "non-substantial." These are items identified by the Project Director/COR at the time of the issuance of the Certificate of Substantial Completion.
  2. Provide a copy of the Project Director's/COR's Schedule of Defects (Punch List), bearing the Contractor's certified statement of completion or correction, itemized for each work element identified thereon AND the Project Director's/COR's acceptance by endorsement.
  3. Provide final certificates of insurance for products installed, as required.
  4. Provide final certificates of insurance for completed operations, as required.
  5. Provide the final meter-readings and service-dates for utilities and services paid for by Contractor. Where applicable, provide the beginning meter-readings and service-dates for utilities and services to be paid for by the USG. Include similar cut-off points, measurements, and readings for stored fuels and other consumable products and services.
  6. If applicable, provide a project Statement of "Consent of Surety."
  7. Prepare an updated final statement, showing extended sequence and accounting of final changes to Contract Price being claimed.
  8. Prepare the Application for Payment – Final Request, for submittal to the Contracting Officer, including copies of supporting documentation not previously submitted and accepted.
  9. Provide a statement regarding the settlement of any liquidated damages, acceptable to the Project Director/COR.
- C. Re-inspection, Testing, and Final Acceptance.
1. The Contractor shall submit a request for final inspection and acceptance that shall include a statement that all foregoing requirements as identified, above, have been fulfilled. As applicable, the Contractor shall include a statement listing itemized work items known to be incomplete or deficient, an explanation of why each item is incomplete or deficient, and the Project Director's/COR's endorsement recognizing the circumstances of the specific non-performance.
  2. The Project Director/COR shall proceed with re-inspection and testing of the work.
  3. Following final re-inspection, the Project Director/COR shall advise the Contractor of all work items incomplete or deficient and of any unfulfilled obligations. These shall be required for final acceptance and shall include any requirements for testing or re-testing.
  4. As determined by the Project Director's/COR's re-inspection, the Contractor shall complete all requested work items, obligations, tests, and

similar actions.

5. Upon the Contractor's satisfactory completion and correction of all work items, the Project Director/COR shall prepare, sign, and issue a Certificate of Final Acceptance, forwarding same to the Contracting Officer.
6. The Contracting Officer will notify Contractor of final acceptance, negotiate adjustments to the final payment, if necessary, and authorize the release of final payment funds.

## 1.6 RECORD DOCUMENT SUBMITTALS

- A. General. Comply with general requirements of Section 01331, *Construction Submittals*, for the preparation and processing of final record document submittals. Refer to individual technical specification sections of Divisions 2 through 16 for specific record document submittal requirements on individual units of work.
- B. Develop and maintain an original mark-up set of contract documents and submittals, as required for final record document submittals, at Project Site and available for the Project Director's/COR's reference. Protect from deterioration and loss, and retain in a secure and fire-resistant space. Do not use for construction purposes. Mark up changes and additional information developed during construction, as may be of future interest or value to the USG. These may be requested by the Project Director/COR regarding whatever document or submittal copy may be most capable of showing the change or other data most clearly. Where applicable, show each change as part of a related Contract Modification, by change order number.
- C. At time of Substantial Completion, submit the following final record documents, marked up to represent "As-Built" documentation, to the Project Director/COR, and in the form and manner specified below.
  1. Record As-Built Drawings. Maintain a full set of the latest revised issue of each drawing sheet, black-line print; marked up using different colors of pencils or pens, to differentiate between change order numbers. Clearly define hidden dimensions and similar data that would be difficult to obtain at a later date. Show conditions not clearly detailed by shop drawings or coordination drawings. Show cross-references to such other records of final data. Organize marked-up prints into set(s) as originally released. Mark each set for identification and date of release as record copy (Substantial Completion date), and transmit to the Project Director/COR. Marked-up set of as-builts shall be transferred and updated on the original design AutoCAD files. Indicate "As-Built" conditions as documented from actual installation. Contractor shall provide one set of 3.5" or CD disks, one (1) reproducible and three black line copies.
  2. Record Shop Drawings and Coordination Drawings. Maintain a full set of accepted shop drawing black-line prints; marked up using different colors of pencils or pens, to differentiate between change order numbers. Show cross-reference where change has been marked up on another document or submittal. Organize shop drawings into sub-sets, as received from each fabricator, and identify by related Contract Specification section number.

Show date of release as record copy (Substantial Completion date), and transmit to the Project Director/COR.

- a) Prepare and transmit marked-up copies of coordination drawings, similar to requirements for record shop drawings.
3. Field Engineering Submittals.
    - a) Make final corrections to site survey, drawings showing buried utilities and similar underground elements, field survey-and-measurement drawings, and similar drawings.
    - b) Final Property Survey. Contractor shall prepare and submit a final property survey in accordance with requirements of Section 01101, *Construction Execution and Coordination*.
      - Media shall be one correctable polyester film positive print, ten black-line copies, and digital files on CD-ROM in the version of AutoCad currently specified by project contract documents.
    - c) Surveyor's Log. Contractor shall submit surveyor's log prepared and maintained for the project in accordance with Section 01101, *Construction Execution and Coordination*.
  4. Construction coordination documentation. Submit as a consolidated, organized collection, documents prepared to support construction coordination as described in Section 01101, *Construction Execution and Coordination*. Documentation shall include, but not be limited to, minutes of meetings, submittal register, and shipping logs.
  5. Record Contract Specifications. Maintain a full set of the Contract Specifications, marked up to record minor changes in the printed text and to show cross references to other documentation recording changes. Where additional writing space is needed, either insert extra sheets with such notations, or write on the blank backsides of preceding pages. Give particular attention to accepted substitutions, selection between options, and similar record information; and give priority to the recording of such data that cannot be easily discerned by subsequent observation at the Project. Mark each volume of specification set for identification and date of release as record copy (Substantial Completion date), and transmit to the Project Director/COR.
  6. Record Product Data. Maintain a full set of accepted product data submittals, marked up to show specific selections for products as actually supplied and installed. Where changes subsequent to acceptance have affected product selection, either obtain corrected product data sheets or mark up sheets to show changes. Show departures, if any, from manufacturers' instructions in accordance with Contract Section H. Mark each submittal with related section number of Construction Specifications, bind in that sequence in conveniently sized binders, identify and date binders (Substantial Completion date), entitle "Replacement Products Procurement Manual," and transmit to the Project Director/COR.
    - a) Include with each submittal of record product data reference copies of final warranties, maintenance agreements, workmanship

- bonds, performance certifications, and similar required documentation of required assurances.
- b) Include with each submittal of record product data, final copies of related inspection and test reports, certificates of compliance (with requirements), and similar quality assurance documentation.
7. Record Samples and Mockups. Prior to the time of Substantial Completion, meet with the Project Director/COR at the Project Site and determine which of remaining submitted samples and prepared mockups are required for the USG's continued retention. Mark each such element with appropriate identification and date of Substantial Completion. Pack in appropriately identified cardboard containers and deliver to designated storage space at the Project Site, as requested by the Project Director/COR.
8. Operation and Maintenance Data. Submit Operation and Maintenance Data in accordance with Section 01781, *Operation and Maintenance Data*.
9. Training Records. Submit training records prepared in accordance with Section 01821, *Demonstration and Training*.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### a. **TURNOVER OF FACILITIES TO THE USG**

*Comply with instructions of Contracting Officer and the Project Director/COR for procedures, sequence, timing, and similar considerations for the turning over of facilities to the USG's personnel for operating, maintenance, occupancy, protection, and general care and custody.*

### b. **POSTED OPERATING DIAGRAMS / INSTRUCTIONS / DATA**

Posted Instructions. Except as otherwise indicated, post operating and maintenance instructions at and for all facility components, building systems, and each principal unit of operational equipment, including safety, security, and protective equipment/system/devices. These shall include, but not be limited to, wiring diagrams, system piping and wiring layouts, and valves and control sequences. Post in both English and host country predominant language and, for emergency-type postings, include international form of pictorial-graphic signage. Instructions shall be attached upon or located near each component, system, or piece of equipment and shall be framed in glass, Plexiglas, or similar material and shall be illuminated, as necessary, to ensure availability for use. Provide protected, tamper-resistant signage, of a permanent nature for the exposure conditions in each case. Locate for convenience of operating and maintenance personnel, but concealed from others, except in the case of general-usage and emergency facilities.

Labels and Nameplates.

Provide permanent product labels and nameplates, including certified compliance stamps and similar required product markings. Locate labels and

nameplates in accessible place that is not readily visible to general occupants of the building from exterior or interior. Except as otherwise indicated, limit size of plates and printing for ease of reading from distance of 350 mm.

Except for required safety/emergency signage, do not provide permanently attached labels, nameplates, trade names, trademarks, and similar markings on product surfaces exposed to view by general occupants of Project. Comply with Project Director's/COR's requests for removal of non-required markings, and for removal/replacement or refinishing of products disfigured by such markings.

**c. WARRANTY MANAGEMENT**

The purpose of the warranty management process shall be to provide the USG with a high level of assurance that the building systems as delivered by the Contractor are free of defect, both patent and latent, that all required warranties are valid, that warranty support systems and methodologies are in place, both locally and remote, and that USG support staff have a full understanding of the continued operation and maintenance of said systems.

The period of warranty management coverage is logically greater than the individual system warranty periods. As a management process, it shall commence early in the start-up and commissioning phase and end at a period normally one year (12 months) from the issuance by the USG of final acceptance certification, unless otherwise agreed upon.

As defined in Section 01811, *Start-Up and Commissioning*, the commencement date for each respective warranty period shall be the date of formal acceptance of each facility component and building system by the Project Director/COR following recommendation for acceptance by the Commissioning Authority.

The Contractor shall make available to the Project Site a qualified representative, knowledgeable in the operation and maintenance of the various building systems as installed in the works, who shall be responsible for warranty management. This individual shall be qualified to address, record, and resolve all warranty issues during the warranty period. The main action agent during the warranty management period may be the Commissioning Authority or any other qualified agent certified by the Contractor to act on its behalf.

The warranty management agent shall perform the following

Communicate and coordinate all actions with the responsible, local USG representative, normally the Facility Maintenance Manager.

Be responsive to all building systems deficiencies, patent and latent, including inspection, evaluation, and documentation of same.

Arrange for all repairs or replacements of all warrantable deficiencies.

Document all issues, actions, and solutions. These records shall be incorporated as a part of the project document set and shall be surrendered to the local USG representative upon termination of the program.

Record and develop a report on expected times between failure of system components.

As a follow up to warranty actions, review procedures with USG operating and maintenance staff to verify they are executing their responsibilities in accordance and compliance with building systems procedures so as to avoid conditions that might lead to warranty action or denial of action.

Develop a summary of lessons learned during the warranty management process to be incorporated into the Maintenance Plan as described in Section 01781, *Operation and Maintenance Data*.

**d. FINAL CLEANUP**

**Initial Cleaning.** Except as otherwise indicated, provide initial cleaning of each non-embedded unit of work promptly upon nominal completion-and-curing of its installation. Maintain in protected and sufficiently clean condition, through remainder of construction duration, so as to prevent staining or other deleterious effect of soiling. Promptly remove significant soiling, including graffiti deposits, occurring during construction. Always comply with product manufacturer's instructions and recommendations, including limitations, for the cleaning of exposed surfaces and for the use of cleaning substances and devices.

**Final Cleaning.** Immediately prior to the time(s) of the Project Director's/COR's inspection(s) of work for certification of Substantial Completion, repeat cleaning operations. Use experienced cleaning personnel and proven methods and materials so as to achieve the level of cleanliness normally expected for a U.S.-located, first-class, commercial or institutional building project. In addition to specific cleaning as may be required by related technical specification sections hereof, comply with the following as applicable:

Comply with governing regulations, including safety standards and environmental protection regulations. Do not burn waste materials at Project Site. Dispose of waste materials in a lawful manner, and do not bury at Project Site, except as may be authorized by the Project Director/COR. Dispose of surpluses as required by the Contract. Do not discharge volatile and other dangerous or deleterious fluids into drainage systems.

Remove temporary facilities and construction tools, equipment, and devices including temporary buildings, enclosures, and protective coverings. Restore substrates as required. Where permanent facilities were used for temporary service, restore to nearly new and unused condition. For additional details, refer to Section 01501, *Temporary Facilities and Controls*.

Clean the entire Project Site, including landscape development areas and site improvements. Remove rubbish, debris, litter, unauthorized or unwanted plant growths and weeds. Sweep the paved areas to a broom-clean condition and remove stains, including petrol-chemical spills and similar deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

Remove debris and dust from limited-access spaces of Project including roofs, plenums, crawl spaces, shafts, tunnels, trenches, equipment vaults, manholes, attics, and similar spaces.

Clean exterior and interior exposed surfaces to a dirt-free condition, free of stains, graffiti, films, and other noticeable and deleterious substances. Restore reflective polishes, and applied treatments, including sealed and waxed finishes. Vacuum clean interior exposed non-treated concrete surfaces and vacuum clean carpeted areas and other soft surfaces

after removal of spots and stains. Avoid disruption of natural weathering, which may be underway on certain exposed exterior surfaces.

Wipe accessible surfaces clean on mechanical, electrical, and similar equipment and fixtures, including lighting fixtures. Remove excess lubrications and similar substances.

Remove exposed-to-view labels not required as permanent labels.

Clean transparent materials, including glazed panels and mirrors, to a polished condition free of visible dirt and films with sealant trimmed away neatly. Replace broken and noticeably abraded glass and plastic units.

Clean and sanitize food service, sanitary, health care, and similar equipment and fixtures so as to be ready for the intended use in each case. Remove stains, including those resulting from water exposures.

Jointly inspect the entire Project Site with the Project Director/COR. Where required, engage specialized firm(s) to rid the Project Site of roaches, pests, and other vermin.

END OF SECTION 01771

## SECTION 02300 - EARTHWORK

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. This Section includes the following:
1. Preparing subgrades for slabs-on-grade, walks, pavements,.
  2. Drainage course for slabs-on-grade.
  3. Subbase course for concrete walks and pavements.

## 1.2 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by COR. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  2. Bulk Excavation: Excavation more than 3 m in width and more than 9 m (30 feet) in length.
  3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by COR. Unauthorized excavation, as well as remedial work directed by COR, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 0.76 cu. m (1 cu. yd.) for bulk excavation or 0.57 cu. m (3/4 cu. yd.) for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

- H. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- I. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

### 1.3 SUBMITTALS

- A. Product Data: For the following:
  1. Each type of plastic warning tape.
  2. Geotextile.
- B. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
  1. Laboratory compaction curve according to ASTM D 1557 for each on-site and borrow soil material proposed for fill and backfill.
  2. Mechanical analysis, according to ASTM D 422, for each on-site and borrow soil material proposed for fill and backfill.
  3. Sulfate and chloride ions, according to ASTM D 516 and 512 respectively, for each on-site borrow soil material proposed for fill and backfill

### 1.4 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.
- B. Preexcavation Conference: Conduct conference at Project site to comply with requirements in Division 1.

### 1.5 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by COR and then only after arranging to provide temporary utility services according to requirements indicated.
  1. Notify COR not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without COR's written permission.
  3. Contact utility-locator service for area where Project is located before excavating.

- B. Demolish and completely remove from site existing underground utilities no longer activated in conflict with new construction. Coordinate with the COR to shut off services if lines are active.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM, or a combination of these groups; free of rock or gravel larger than 75 mm (3 inches) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 12 percent passing a 0.075-mm (No. 200) sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 8 percent passing a 0.075-mm (No. 200) sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 12 percent passing a 0.075-mm (No. 200) sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 25-mm (1-inch) sieve and not more than 8 percent passing a 0.075-mm (No. 200) sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 37.5-mm (1-1/2-inch) sieve and 0 to 5 percent passing a 2.36-mm (No. 8) sieve.

- I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 25-mm (1-inch) sieve and 0 to 5 percent passing a 4.75-mm (No. 4) sieve.
- J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 2.2 GEOTEXTILES

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  1. Survivability: Class 2; AASHTO M 288.
  2. Grab Tensile Strength: 700 N (157 lbf); ASTM D 4632.
  3. Sewn Seam Strength: 630 N (142 lbf); ASTM D 4632.
  4. Tear Strength: 250 N (56 lbf); ASTM D 4533.
  5. Puncture Strength: 250 N (56 lbf); ASTM D 4833.
  6. Apparent Opening Size: 0.425-mm (No. 40) 0.250-mm (No. 60) 0.212-mm (No. 70) sieve, maximum; ASTM D 4751.
  7. Permittivity: 0.5 0.2 0.1 per second, minimum; ASTM D 4491.
  8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.
- D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

### 3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system, specified in Division 2 Section "Dewatering," to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
  - 3. Do not expose subgrade to atmospheric conditions for extended periods. If necessary, use temporary cover or a thin layer of concrete (i.e. mud mats).

### 3.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

### 3.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
  - 2. Excavated side slopes for general excavation, structures, utility trenches shall not exceed 1.0 V to 2.0 H. Shoring and bracing shall be required for slopes exceeding 1.0 V to 2.0 H. For excavations below the water table, sheeting and shoring may also be necessary.

### 3.5 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

### 3.6 SUBGRADE INSPECTION

- A. Notify COR when excavations have reached required subgrade.
- B. If COR determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

- C. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 5 km/h (3 mph).
  - 2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 13.6 tonnes (15 tons).
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by COR, and replace with compacted backfill or fill as directed.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by COR, without additional compensation.

### 3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. 20 mm (3/4-inch) size stone or lean concrete fill, with 28-day compressive strength of 17.2 MPa (2500 psi), may be used when approved by COR.
  - 1. Fill unauthorized excavations under other construction or utility pipe as directed by COR.

### 3.8

### 3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.10 BACKFILL

- A. Place and compact backfill to required density in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash, debris, compressible material, and organic soils. .
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

- B. Place backfill on subgrades free of mud, frost, snow, or ice.
- C. Based on the Geotechnical Investigation by the Louis Berger Group, on site material may not be suitable for backfilling in most cases. Granular backfill meeting the following general criteria is typically acceptable for instances where controlled backfill is necessary:
  - Maximum particle size 100mm (4 in.);
  - No more than 30% by weight retained on the 20mm (¾-in.) sieve;
  - No more than 40% by weight passing the #100 sieve; and,
  - No more than 12% by weight passing the #200 sieve, non-plastic.

### 3.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  1. Under grass and planted areas, use satisfactory soil material.
  2. Under walks and pavements, use satisfactory soil material.
  3. Under steps and ramps, use engineered fill.
  4. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 300 mm (12 inches) in loose depth for material compacted by heavy compaction equipment, and not more than 200 mm (8 inches) in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top **300 mm (12 inches)** of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top **150 mm (6 inches)** below subgrade and compact each layer of backfill or fill soil material at 92 percent.
3. Under lawn or unpaved areas, scarify and recompact top **150 mm (6 inches)** below subgrade and compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 90 percent.

### 3.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  1. Lawn or Unpaved Areas: Plus or minus **25 mm (1 inch)**.
  2. Walks: Plus or minus **25 mm (1 inch)**.
  3. Pavements: Plus or minus **13 mm (1/2 inch)**.

### 3.15 SUBBASE COURSES

- A. Place subbase course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course under pavements and walks as follows:
  1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends only in locations directed by the Geotechnical Engineer.
  2. Shape subbase course to required crown elevations and cross-slope grades.
  3. Place subbase course **150 mm (6 inches)** or less in compacted thickness in a single layer.
  4. Place subbase course that exceeds **150 mm (6 inches)** in compacted thickness in layers of equal thickness, with no compacted layer more than **150 mm (6 inches)** thick or less than **75 mm (3 inches)** thick.
  5. Compact subbase course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

### 3.16 FIELD QUALITY CONTROL

- A. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- B. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by COR.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
  - 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 186 sq. m (2000 sq. ft.) or less of paved area or building slab, but in no case fewer than 3 tests.
  - 2. Foundation Wall Backfill: At each compacted backfill layer, at least 1 test for each 30 m (100 feet) or less of wall length, but no fewer than 2 tests.
  - 3. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 46 m (150 feet) or less of trench length, but no fewer than 2 tests.
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

### 3.17 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by COR; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property. Contractor may

elect to coordinate with other Contractors working on other RFP Packages to transport surplus satisfactory soil to and/or from other contractor work areas as an option to importing from offsite sources or exporting off of the property.

END OF SECTION 02300

## SECTION 02751 - CEMENT CONCRETE PAVEMENT

### PART 4 - GENERAL

#### 4.1 SUMMARY

- A. This Section includes exterior cement concrete pavement for the following:
  - 1. Driveways and parking.
  - 2. Curbs and gutters.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for subgrade preparation, grading, and subbase course.
  - 2. Division 2 Section "Pavement Joint Sealants" for joint sealants within concrete pavement and at isolation joints of concrete pavement with adjacent construction.

#### 4.2 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, expansive hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

#### 4.3 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Qualification Data: For manufacturer.
- D. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
  - 1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
- E. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:
  - 1. Cementitious materials.
  - 2. Steel reinforcement and reinforcement accessories.
  - 3. Steel fiber reinforcement.
  - 4. Admixtures.
  - 5. Curing compounds.
  - 6. Bonding agent or epoxy adhesive.
  - 7. Joint fillers.
- F. Field quality-control test reports.

#### 4.4 QUALITY ASSURANCE

- A. **Installer Qualifications:** An experienced installer who has completed pavement work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. **Manufacturer Qualifications:** Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
  - 1. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.
- C. **Testing Agency Qualifications:** An independent agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
  - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
- D. **Source Limitations:** Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.
- E. **ACI Publications:** Comply with ACI 301, "Specification for Structural Concrete," unless modified by the requirements of the Contract Documents.
- F. **Concrete Testing Service:** Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixes.
- G. **Pre-Installation Conference:** Conduct conference at Project site to comply with requirements of the Contract.
  - 1. Before submitting design mixes, review concrete pavement mix design and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with concrete pavement to attend, including the following:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixes.
    - c. Ready-mix concrete producer.
    - d. Concrete subcontractor.
- H. Document any applicable local codes or authorities and ensure that all relevant work is in compliance.
- I. Implement applicable provisions of the Quality Control program as established in Section 01401, "Contractor's Quality Control."

#### 4.5 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

## PART 5 - PRODUCTS

### 5.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
  - 1. Use flexible or curved forms for curves of a radius 30 m or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

### 5.2 STEEL REINFORCEMENT

- A. Steel Fiber for Concrete: ASTM A 820, Typical of Dramix RC-80/60-BN. Tensile strength shall be minimum of 1035 n/mm<sup>2</sup>.
- B. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 420. Cut bars true to length with ends square and free of burrs.
- C. Tie Bars: ASTM A 615/A 615M, Grade 420, deformed.

### 5.3 CONCRETE MATERIALS

- A. General: Use the same brand and type of cementitious material from the same manufacturer throughout the Project.
- B. Portland Cement: ASTM C 150, Type I or II.
  - 1. Fly Ash: ASTM C 618, Class F or C.
- C. Aggregate: ASTM C 33, uniformly graded, from a single source, with coarse aggregate as follows:
  - 1. Class: 4S.
  - 2. Maximum Aggregate Size: 19 mm nominal.
  - 3. Do not use fine or coarse aggregates containing substances that cause spalling.
- D. Water: ASTM C 94.

### 5.4 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures.

- B. Air-Entraining Admixture: ASTM C 260.
- C. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

## 5.5 CURING MATERIALS

- A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- B. Water: Potable.

## 5.6 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

## 5.7 CONCRETE MIXES

- A. Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the trial batch method.
  - 1. Do not use Government's field quality-control testing agency as the independent testing agency.
- C. Proportion mixes to provide concrete with the following properties:
  - 1. Compressive Strength (28 Days): 30 MPa.
  - 2. Maximum Water-Cementitious Materials Ratio: 0.50.
  - 3. Slump Limit: 75 mm.
    - a. Slump Limit for Concrete Containing High-Range Water-Reducing Admixture: Not more than 75 mm after adding admixture to plant- or site-verified, 25 to 50 mm slump.
- D. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
  - 1. Air Content: 6 percent plus or minus 1.5 percent for 19-mm (3/4-inch) nominal maximum aggregate size.
- E. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements for concrete exposed to deicing chemicals.

- F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  1. Fly Ash: 25 percent.

## 5.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94 and ASTM C 1116.
  1. When air temperature is between 30 deg C and 32 deg C, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 32 deg C, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Comply with requirements and measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
  1. For mixers of 0.75 m<sup>3</sup> or smaller capacity, continue mixing at least one and one-half minutes, but not more than five minutes after ingredients are in mixer, before any part of batch is released.
  2. For mixers of capacity larger than 0.75 m<sup>3</sup>, increase mixing time by 15 seconds for each additional 0.75 m<sup>3</sup>.
  3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added.

## PART 6 - EXECUTION

### 6.1 PREPARATION

- A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.
- B. Remove loose material from compacted subbase surface immediately before placing concrete.

### 6.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

### 6.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
  - 1. General:
    - a. Contractor shall comply with manufacturers requirements and recommendations for mixing and installation of concrete with steel fiber reinforcement.
    - b. Utilize a central batching plant mixer.
    - c. A continuous grading is recommended.
    - d. Mix until all glued fibers are separated into individual fibers. Fibers don't increase mixing time significantly.
    - e. If special cements or admixtures are used, a preliminary test shall be performed.
    - f. Never add fibers as first component in the mixer.
    - g. Fibers can be introduced together with sand and aggregates, or can be added in freshly mixed concrete.

### 6.4 JOINTS

- A. General: Construct construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
  - 1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour, unless pavement terminates at isolation joints.
  - 1. Provide preformed galvanized steel or plastic keyway-section forms or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 38 mm into concrete.
  - 2. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
  - 3. Provide tie bars at sides of pavement strips where indicated.
  - 4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
1. Locate expansion joints at intervals of 15.00 m, unless otherwise indicated.
  2. Extend joint fillers full width and depth of joint.
  3. Terminate joint filler less than 12 mm or more than 25 mm below finished surface if joint sealant is indicated.
  4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
  5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
  6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.
- E. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to the following radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
    - a. Radius: 10 mm.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades within 24 hours of pour. Cut 3 mm wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
- F. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to the following radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.
1. Radius: 10 mm.

## 6.5 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

- C. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.
- D. Comply with requirements and with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery, at Project site, or during placement.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R.
  - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.
  - 1. Remove and replace portions of bottom layer of concrete that have been placed more than 15 minutes without being covered by top layer, or use bonding agent if approved by the C.O.R.
- I. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading dry-shake surface treatments.
- J. Slip-Form Pavers: When automatic machine placement is used for pavement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce pavement to required thickness, lines, grades, finish, and jointing as required for formed pavement.
  - 1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of paver machine during operations.
- K. When adjoining pavement lanes are placed in separate pours, do not operate equipment on concrete until pavement has attained 85 percent of its 28-day compressive strength.
- L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When air temperature has fallen to or is expected to fall below 4 deg C, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 10 deg C and not more than 27 deg C at point of placement.
  2. Do not use frozen materials or materials containing ice or snow.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- M. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 32 deg C. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

## 6.6 CONCRETE FINISHING

- A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and the concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots, and fill low spots. Refloat surface immediately to uniform granular texture.
  1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

## 6.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and follow recommendations in ACI 305R for hot-weather protection during curing.
- B. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.
- C. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

- a. Water.
  - b. Continuous water-fog spray.
  - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 300 mm lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 300 mm, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

## 6.8 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
  1. Elevation: 6 mm.
  2. Thickness: Plus 9 mm, minus 6 mm.
  3. Surface: Gap below 3 m long, unlevelled straightedge not to exceed 6 mm.
  4. Lateral Alignment and Spacing of Tie Bars and Dowels: 25 mm.
  5. Vertical Alignment of Tie Bars and Dowels: 6 mm.
  6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 12 mm.
  7. Joint Spacing: 75 mm.
  8. Contraction Joint Depth: Plus 6 mm, no minus.
  9. Joint Width: Plus 3 mm, no minus.

## 6.9 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified independent testing and inspection agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.
- B. Testing Services: Testing shall be performed according to the following requirements:
  1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C 172, except modified for slump to comply with ASTM C 94.
  2. Slump: ASTM C 143; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
  3. Air Content: ASTM C 231, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air-entrained concrete.
  4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 4 deg C and below and when 27 deg C and above, and one test for each set of compressive-strength specimens.

5. Compression Test Specimens: ASTM C 31/C 31M; one set of four standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.
  6. Compressive-Strength Tests: ASTM C 39; one set for each day's pour of each concrete class exceeding 4 cu. m, but less than 20 cu. m, plus one set for each additional 50 cu. m. One specimen shall be tested at 7 days and two specimens at 28 days; one specimen shall be retained in reserve for later testing if required.
  7. When frequency of testing will provide fewer than five compressive-strength tests for a given class of concrete, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  8. When total quantity of a given class of concrete is less than 50 cu. m, The C.O.R. may waive compressive-strength testing if adequate evidence of satisfactory strength is provided.
  9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, current operations shall be evaluated and corrective procedures shall be provided for protecting and curing in-place concrete.
  10. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive compressive-strength test results equal or exceed specified compressive strength and no individual compressive-strength test result falls below specified compressive strength by more than 3.4 MPa.
- C. Test results shall be reported in writing to the C.O.R., concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by the C.O.R., but will not be used as the sole basis for approval or rejection.
- E. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by the C.O.R.. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.
- 6.10 REPAIRS AND PROTECTION
- A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements in this Section.
  - B. Drill test cores where directed by the C.O.R. when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

- C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

**END OF SECTION 02751**

## SECTION 02764 - PAVEMENT JOINT SEALANTS

### PART 7 - GENERAL

#### 7.1 SUMMARY

- A. This Section includes the following:
  - 1. Expansion and contraction joints within portland cement concrete pavement.
  - 2. Joints between portland cement concrete and asphalt pavement.
- B. Related Sections include the following:
  - 1. Division 2 Section Cement Concrete Paving for constructing joints in concrete paving.

#### 7.2 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency, based on testing current sealant formulations within a 36-month period.
  - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
  - 2. Test joint sealants for compliance with requirements indicated by referencing standard specifications and test methods.
- D. Document any applicable local codes or authorities and ensure that all relevant work is in compliance.
- E. Implement applicable provisions of the Quality Control program as established in Section 01401, "Contractor's Quality Control."

### 7.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials to comply with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

### 7.4 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 deg C.
  - 2. When joint substrates are wet.
- B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than that allowed by joint sealant manufacturer for application indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

## PART 8 - PRODUCTS

### 8.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: Match COR's samples.

### 8.2 COLD-APPLIED JOINT SEALANTS

- A. Type NS Silicone Sealant for Concrete: Single-component, low-modulus, neutral-curing, non-sag silicone sealant complying with ASTM D 5893 for Type NS.
- B. Type SL Silicone Sealant for Concrete and Asphalt: Single-component, low-modulus, neutral-curing, self-leveling silicone sealant complying with ASTM D 5893 for Type SL.

### 8.3 HOT-APPLIED JOINT SEALANTS

- A. Elastomeric Sealant for Concrete: Single-component formulation complying with ASTM D 3406.
- B. Sealant for Concrete and Asphalt: Single-component formulation complying with ASTM D 3405.

### 8.4 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rod for Cold- and Hot-Applied Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depths and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Sealants: ASTM D 5249; Type 2; of thickness and width required to control sealant depths, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.
- D. Round Backer Rods for Cold-Applied Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depths and prevent bottom-side adhesion of sealant.

### 8.5 PRIMERS

- A. Primers: Product recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint- sealant-substrate tests and field tests.

## **PART 9 - EXECUTION**

### 9.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 9.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions.

- B. **Joint Priming:** Prime joint substrates where indicated or where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

### 9.3 INSTALLATION OF JOINT SEALANTS

- A. **General:** Comply with joint sealant manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.
- B. **Sealant Installation Standard:** Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. **Install backer materials of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.**
  - 1. Do not leave gaps between ends of backer materials.
  - 2. Do not stretch, twist, puncture, or tear backer materials.
  - 3. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.
- D. **Install sealants by proven techniques to comply with the following and at the same time backings are installed:**
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses provided for each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. **Tooling of Nonsag Sealants:** Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealants from surfaces adjacent to joint.
  - 2. Use tooling agents that are approved in writing by joint sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. **Provide joint configuration to comply with joint sealant manufacturer's written instructions, unless otherwise indicated.**
- G. **Provide recessed joint configuration for silicone sealants of recess depth and at locations indicated.**

#### 9.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

#### 9.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

**END OF SECTION 02764**

## SECTION 02300 - EARTHWORK

## PART 10 - GENERAL

## 10.1 SUMMARY

- A. This Section includes the following:
1. Preparing subgrades for slabs-on-grade, walks, pavements,.
  2. Drainage course for slabs-on-grade.
  3. Subbase course for concrete walks and pavements.

## 10.2 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by COR. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  2. Bulk Excavation: Excavation more than 3 m in width and more than 9 m (30 feet) in length.
  3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by COR. Unauthorized excavation, as well as remedial work directed by COR, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 0.76 cu. m (1 cu. yd.) for bulk excavation or 0.57 cu. m (3/4 cu. yd.) for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

- H. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- I. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

### 10.3 SUBMITTALS

- A. Product Data: For the following:
  1. Each type of plastic warning tape.
  2. Geotextile.
- B. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
  1. Laboratory compaction curve according to ASTM D 1557 for each on-site and borrow soil material proposed for fill and backfill.
  2. Mechanical analysis, according to ASTM D 422, for each on-site and borrow soil material proposed for fill and backfill.
  3. Sulfate and chloride ions, according to ASTM D 516 and 512 respectively, for each on-site borrow soil material proposed for fill and backfill

### 10.4 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.
- B. Preexcavation Conference: Conduct conference at Project site to comply with requirements in Division 1.

### 10.5 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by COR and then only after arranging to provide temporary utility services according to requirements indicated.
  1. Notify COR not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without COR's written permission.
  3. Contact utility-locator service for area where Project is located before excavating.

- B. Demolish and completely remove from site existing underground utilities no longer activated in conflict with new construction. Coordinate with the COR to shut off services if lines are active.

## PART 11 - PRODUCTS

### 11.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM, or a combination of these groups; free of rock or gravel larger than 75 mm (3 inches) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 12 percent passing a 0.075-mm (No. 200) sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 8 percent passing a 0.075-mm (No. 200) sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 37.5-mm (1-1/2-inch) sieve and not more than 12 percent passing a 0.075-mm (No. 200) sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 25-mm (1-inch) sieve and not more than 8 percent passing a 0.075-mm (No. 200) sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 37.5-mm (1-1/2-inch) sieve and 0 to 5 percent passing a 2.36-mm (No. 8) sieve.

- I. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 25-mm (1-inch) sieve and 0 to 5 percent passing a 4.75-mm (No. 4) sieve.
- J. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 11.2 GEOTEXTILES

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  1. Survivability: Class 2; AASHTO M 288.
  2. Grab Tensile Strength: 700 N (157 lbf); ASTM D 4632.
  3. Sewn Seam Strength: 630 N (142 lbf); ASTM D 4632.
  4. Tear Strength: 250 N (56 lbf); ASTM D 4533.
  5. Puncture Strength: 250 N (56 lbf); ASTM D 4833.
  6. Apparent Opening Size: 0.425-mm (No. 40) 0.250-mm (No. 60) 0.212-mm (No. 70) sieve, maximum; ASTM D 4751.
  7. Permittivity: 0.5 0.2 0.1 per second, minimum; ASTM D 4491.
  8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## PART 12 - EXECUTION

### 12.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.
- D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

## 12.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system, specified in Division 2 Section "Dewatering," to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
  - 3. Do not expose subgrade to atmospheric conditions for extended periods. If necessary, use temporary cover or a thin layer of concrete (i.e. mud mats).

## 12.3 EXPLOSIVES

- A. Explosives: Do not use explosives.

## 12.4 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
  - 2. Excavated side slopes for general excavation, structures, utility trenches shall not exceed 1.0 V to 2.0 H. Shoring and bracing shall be required for slopes exceeding 1.0 V to 2.0 H. For excavations below the water table, sheeting and shoring may also be necessary.

## 12.5 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

## 12.6 SUBGRADE INSPECTION

- A. Notify COR when excavations have reached required subgrade.
- B. If COR determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

- C. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 5 km/h (3 mph).
  - 2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 13.6 tonnes (15 tons).
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by COR, and replace with compacted backfill or fill as directed.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by COR, without additional compensation.

## 12.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. 20 mm (3/4-inch) size stone or lean concrete fill, with 28-day compressive strength of 17.2 MPa (2500 psi), may be used when approved by COR.
  - 1. Fill unauthorized excavations under other construction or utility pipe as directed by COR.

## 12.8

## 12.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

## 12.10 BACKFILL

- A. Place and compact backfill to required density in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash, debris, compressible material, and organic soils. .
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

- B. Place backfill on subgrades free of mud, frost, snow, or ice.
- C. Based on the Geotechnical Investigation by the Louis Berger Group, on site material may not be suitable for backfilling in most cases. Granular backfill meeting the following general criteria is typically acceptable for instances where controlled backfill is necessary:
  - Maximum particle size 100mm (4 in.);
  - No more than 30% by weight retained on the 20mm (¾-in.) sieve;
  - No more than 40% by weight passing the #100 sieve; and,
  - No more than 12% by weight passing the #200 sieve, non-plastic.

#### 12.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  1. Under grass and planted areas, use satisfactory soil material.
  2. Under walks and pavements, use satisfactory soil material.
  3. Under steps and ramps, use engineered fill.
  4. Under footings and foundations, use engineered fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

#### 12.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

#### 12.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 300 mm (12 inches) in loose depth for material compacted by heavy compaction equipment, and not more than 200 mm (8 inches) in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top **300 mm (12 inches)** of existing subgrade and each layer of backfill or fill soil material at 95 percent.
2. Under walkways, scarify and recompact top **150 mm (6 inches)** below subgrade and compact each layer of backfill or fill soil material at 92 percent.
3. Under lawn or unpaved areas, scarify and recompact top **150 mm (6 inches)** below subgrade and compact each layer of backfill or fill soil material at 85 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 90 percent.

#### 12.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  1. Lawn or Unpaved Areas: Plus or minus **25 mm (1 inch)**.
  2. Walks: Plus or minus **25 mm (1 inch)**.
  3. Pavements: Plus or minus **13 mm (1/2 inch)**.

#### 12.15 SUBBASE COURSES

- A. Place subbase course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course under pavements and walks as follows:
  1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends only in locations directed by the Geotechnical Engineer.
  2. Shape subbase course to required crown elevations and cross-slope grades.
  3. Place subbase course **150 mm (6 inches)** or less in compacted thickness in a single layer.
  4. Place subbase course that exceeds **150 mm (6 inches)** in compacted thickness in layers of equal thickness, with no compacted layer more than **150 mm (6 inches)** thick or less than **75 mm (3 inches)** thick.
  5. Compact subbase course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

## 12.16 FIELD QUALITY CONTROL

- A. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- B. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by COR.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
  - 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 186 sq. m (2000 sq. ft.) or less of paved area or building slab, but in no case fewer than 3 tests.
  - 2. Foundation Wall Backfill: At each compacted backfill layer, at least 1 test for each 30 m (100 feet) or less of wall length, but no fewer than 2 tests.
  - 3. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 46 m (150 feet) or less of trench length, but no fewer than 2 tests.
- D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

## 12.17 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by COR; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

## 12.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property. Contractor may

elect to coordinate with other Contractors working on other RFP Packages to transport surplus satisfactory soil to and/or from other contractor work areas as an option to importing from offsite sources or exporting off of the property.

END OF SECTION 02300

## J. QUOTATION INFORMATION

### A. QUALIFICATIONS OF OFFERORS

Offerors/quoters must be technically qualified and financially responsible to perform the work described in this solicitation. At a minimum, each Offeror/Quoter must meet the following requirements:

- (1) Be able to understand written and spoken English;
- (2) Have an established business with a permanent address and telephone listing;
- (3) Be able to demonstrate prior construction experience with suitable references;
- (4) Have the necessary personnel, equipment and financial resources available to perform the work;
- (5) Have all licenses and permits required by local law;
- (6) Meet all local insurance requirements;
- (7) Have the ability to obtain or to post adequate performance security, such as bonds, irrevocable letters of credit or guarantees issued by a reputable financial institution;
- (8) Have no adverse criminal record; and
- (9) Have no political or business affiliation which could be considered contrary to the interests of the United States.

### B. SUBMISSION OF QUOTATIONS

This solicitation is for the performance of the construction services described in SCOPE OF WORK, and the Attachments which are a part of this request for quotation.

Each quotation must consist of the following:

<u>Volume</u>	<u>Title</u>	<u>No. of Copies</u>
I	Standard Form 1442 including a completed Attachment 2, "BREAKDOWN OF PROPOSAL PRICE BY DIVISIONS OF SPECIFICATIONS" and BID FORM.	<u>1</u>
II	Performance schedule in the form of a "bar chart" and Business Management/Technical Proposal.	<u>1</u>

Submit the complete quotation to the address indicated on Standard Form 1442 (block 8), if mailed, or the address set forth below, if hand delivered.

U.S Embassy  
Al Kindi Street  
Baghdad International Zone, Iraq  
(marked for the attention of the  
**“Contracting Officer – Proposal S-IZ100-12-R-0030 Enclosed”**)

The Offeror/Quoter shall identify and explain/justify any deviations, exceptions, or conditional assumptions taken with respect to any of the instructions or requirements of this request for quotation in the appropriate volume of the offer.

Volume II: Performance schedule and Business Management/Technical Proposal.

- (a) Present the performance schedule in the form of a "bar chart" indicating when the various portions of the work will be commenced and completed within the required schedule. This bar chart shall be in sufficient detail to clearly show each segregable portion of work and its planned commencement and completion date.
- (b) The Business Management/Technical Proposal shall be in two parts, including the following information:

Proposed Work Information - Provide the following:

- (1) A list of the names, addresses and telephone numbers of the owners, partners, and principal officers of the Offeror;
- (2) The name and address of the Offeror's field superintendent for this project;
- (3) A list of the names, addresses, and telephone numbers of subcontractors and principal materials suppliers to be used on the project, indicating what portions of the work will be performed by them; and,

Experience and Past Performance - List all contracts and subcontracts your company has held **over the past three years for the same or similar work**. Provide the following information for each contract and subcontract:

- (1) Customer's name, address, and telephone numbers of customer's lead contract and technical personnel;
- (2) Contract number and type;
- (3) Date of the contract award place(s) of performance, and completion dates; Contract dollar value;

- (4) Brief description of the work, including responsibilities; and
- (5) Any litigation currently in process or occurring within last 5 years.

LICENSES: Provide the following information:

- (1) A copy of the company registration with the Iraqi Ministry of Trade, or
- (2) For foreign companies, a copy of the company registration with the Foreign Companies Section of the Iraqi Ministry of Trade,

INSURANCE & PAYMENT PROTECTION INFORMATION: Provide the following information:

- (1) A statement identifying the insurance company from which the general liability insurance policy will be purchased if awarded the contract

**C. 52.236-27 SITE VISIT (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) A site visit has been scheduled for **10:00 hours on Thursday, April 12, 2012.**
- (c) **Participants will meet at the U. S. Embassy, Blue CAC on Al Kindi Street, International Zone, Baghdad, Iraq.**
- (d) In order to be admitted to the Site Visit, a Site Visit Registration form must be submitted by email to this address [BaghdadGSOProcurement@state.gov](mailto:BaghdadGSOProcurement@state.gov) no later than 12:00 noon (Baghdad Time) on Sunday, April 10, 2012. No more than 1 person will be admitted from each company. The form is available for download from the Embassy web site at [http://iraq.usembassy.gov/gso\\_procurement.html](http://iraq.usembassy.gov/gso_procurement.html) or you may request a copy of the form by email at [BaghdadGSOProcurement@state.gov](mailto:BaghdadGSOProcurement@state.gov).

**D. MAGNITUDE OF CONSTRUCTION PROJECT**

It is anticipated that the range in price of this contract will be: between \$100,000 and \$150,000.

**F. LATE QUOTATIONS. Late quotations shall be handled in accordance with FAR**

**F. 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates the following provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and

provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at:

<http://acquisition.gov/far/index.html/> or, <http://farsite.hill.af.mil/search.htm>

These addresses are subject to change. If the Federal Acquisition Regulation (FAR) is not available at the locations indicated above, use of an Internet "search engine" (such as, Yahoo, Infoseek, Alta Vista, etc.) is suggested to obtain the latest location of the most current FAR.  
<http://www.statebuy.state.gov>

FEDERAL ACQUISITION REGULATION (48 CFR CH. 1)  
 52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (JAN 2004),  
 which is incorporated by reference into this solicitation.

THE FOLLOWING DOSAR PROVISION IS PROVIDED IN FULL TEXT:

652.228-74 DEFENSE BASE ACT INSURANCE RATES – LIMITATION (JUN 2006)]

(a) The Department of State has entered into a contract with an insurance carrier to provide Defense Base Act (DBA) insurance to Department of State covered contractor employees at a contracted rate. For the purposes of this provision, "covered contractor employees" includes the following individuals:

- (1) United States citizens or residents;
- (2) Individuals hired in the United States or its possessions, regardless of citizenship;  
and
- (3) Local nationals and third country nationals where contract performance takes place in a country where there are no local workers' compensation laws.

(b) In preparing the cost proposal, the bidder/offeror shall use the following rates in computing the cost for the DBA insurance:

Construction @ \$5.50 per \$100 of compensation.

(c) Bidders/Offerors shall compute the total compensation (direct salary plus differential, but excluding per diem, housing allowances) to be paid to covered contractor employees and the cost of DBA insurance in their bid/proposal using the foregoing rate. Bidders/offerors shall include the estimated DBA insurance costs in their proposed fixed price or estimated cost. However, the DBA insurance costs shall be identified in a separate line item in the bid proposal."

**K. EVALUATION CRITERIA**

Award will be made to the lowest priced, acceptable, responsible quoter. The Government reserves the right to reject quotations that are unreasonably low or high in price.

The Government will determine acceptability by assessing the offeror's compliance with the terms of the RFQ. The Government will determine responsibility by analyzing whether the apparent successful quoter complies with the requirements of FAR 9.1, including:

- ability to comply with the required performance period, taking into consideration all existing commercial and governmental business commitments;
- satisfactory record of integrity and business ethics;
- necessary organization, experience, and skills or the ability to obtain them;
- necessary equipment and facilities or the ability to obtain them; and
- otherwise qualified and eligible to receive an award under applicable laws and regulations.

## L. REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS OR QUOTERS

### L.1 52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

#### (a) Definitions.

"Common parent", as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Taxpayer Identification Number (TIN)", as used in this provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

- (b) All offerors must submit the information required in paragraphs (d) through (f) of this provision in order to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325 (d), reporting requirements of 26 USC 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in FAR 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.
- (c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 USC 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

#### **(d) Taxpayer Identification Number (TIN).**

TIN: \_\_\_\_\_

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of the Federal Government.

#### **(e) Type of Organization.**

Sole Proprietorship;

Partnership;

Corporate Entity (not tax exempt);

Corporate Entity (tax exempt);

Government entity (Federal, State, or local);

- Foreign government;  
 International organization per 26 CFR 1.6049-4;  
 Other \_\_\_\_\_

**(f) Common Parent.**

- Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this clause.  
 Name and TIN of common parent;

Name \_\_\_\_\_  
 TIN \_\_\_\_\_

(End of provision)

**L.2 52.204-6 CONTRACTOR IDENTIFICATION NUMBER -DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003)**

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS+4” followed by the DUNS number or DUNS+4 that identifies the offeror’s name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11) for the same parent company.

If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. An offeror may obtain a DUNS number-

- If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or
- If located outside the United States, by contacting the local Dun and Bradstreet office.

The offeror should be prepared to provide the following information:

- Company legal business name.
- Trade style, doing business, or other name by which your entity is commonly recognized.
- Company physical street address, city, state and Zip Code.
- Company mailing address, city, state and Zip Code (if separate from physical)
- Company telephone number
- Date the company was started.
- Number of employees at your location.
- Chief executive officer/key manager.
- Line of business (industry)

- Company Headquarters name and address (reporting relationship within your entity).

### L.3 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (NOV 2011)

- (a) (1) The North American Industry Classification System (NAICS) codes for this acquisition are: 236220 for Construction Management for commercial and institutional buildings or warehouse construction; 237310 for Construction management for highways, roads, streets or bridges; 237990 for Construction Management for outdoor recreation facilities; 236118 for Construction Management for residential remodeling; 237110 for Construction Management for water and sewage lines and related structures.
- (2) The small business size standard is \$33.5 million.
- (3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.
- (b) (1) If the clause at [52.204-7](#), Central Contractor Registration, is included in this solicitation, paragraph (d) of this provision applies.
- (2) If the clause at [52.204-7](#) is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:
- (i) Paragraph (d) applies.
- (ii) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.
- (c) (1) The following representations or certifications in ORCA are applicable to this solicitation as indicated:
- (i) [52.203-2](#), Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless—
- (A) The acquisition is to be made under the simplified acquisition procedures in [Part 13](#);
- (B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or
- (C) The solicitation is for utility services for which rates are set by law or regulation.
- (ii) [52.203-11](#), Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed \$150,000.
- (iii) [52.204-3](#), Taxpayer Identification. This provision applies to solicitations that do not include the clause at [52.204-7](#), Central Contractor Registration.
- (iv) [52.204-5](#), Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—
- (A) Are not set aside for small business concerns;
- (B) Exceed the simplified acquisition threshold; and
- (C) Are for contracts that will be performed in the United States or its outlying areas.
- (v) [52.209-2](#), Prohibition on Contracting with Inverted Domestic Corporations—Representation. This provision applies to solicitations using funds appropriated in fiscal years 2008, 2009, or 2010.

(vi) [52.209-5](#), Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.

(vii) [52.214-14](#), Place of Performance—Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.

(viii) [52.215-6](#), Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.

(ix) [52.219-1](#), Small Business Program Representations (Basic & Alternate I). This provision applies to solicitations when the contract will be performed in the United States or its outlying areas.

(A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.

(B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.

(x) [52.219-2](#), Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract will be performed in the United States or its outlying areas.

(xi) [52.222-22](#), Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at [52.222-26](#), Equal Opportunity.

(xii) [52.222-25](#), Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at [52.222-26](#), Equal Opportunity.

(xiii) [52.222-38](#), Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial items.

(xiv) [52.223-1](#), Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA–designated items; or include the clause at [52.223-2](#), Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xv) [52.223-4](#), Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA–designated items.

(xvi) [52.225-2](#), Buy American Act Certificate. This provision applies to solicitations containing the clause at [52.225-1](#).

(xvii) [52.225-4](#), Buy American Act—Free Trade Agreements—Israeli Trade Act Certificate. (Basic, Alternate I, and Alternate II) This provision applies to solicitations containing the clause at [52.225-3](#).

(A) If the acquisition value is less than \$25,000, the basic provision applies.

(B) If the acquisition value is \$25,000 or more but is less than \$50,000, the provision with its Alternate I applies.

(C) If the acquisition value is \$50,000 or more but is less than \$67,826, the provision with its Alternate II applies.

(xviii) [52.225-6](#), Trade Agreements Certificate. This provision applies to solicitations containing the clause at [52.225-5](#).

(xix) [52.225-20](#), Prohibition on Conducting Restricted Business Operations in Sudan—Certification. This provision applies to all solicitations.

(xx) [52.225-25](#), Prohibition on Contracting with Entities Engaging in Sanctioned Activities Relating to Iran—Representation and Certification. This provision applies to all solicitations.

(xxi) [52.226-2](#), Historically Black College or University and Minority Institution Representation. This provision applies to—

(A) Solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions; and

(B) For DoD, NASA, and Coast Guard acquisitions, solicitations that contain the clause at [52.219-23](#), Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns.

(2) The following certifications are applicable as indicated by the Contracting Officer:

\_\_\_ (i) [52.219-22](#), Small Disadvantaged Business Status.

\_\_\_ (A) Basic.

\_\_\_ (B) Alternate I.

\_\_\_ (ii) [52.222-18](#), Certification Regarding Knowledge of Child Labor for Listed End Products.

\_\_\_ (iii) [52.222-48](#), Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment Certification.

\_\_\_ (iv) [52.222-52](#), Exemption from Application of the Service Contract Act to Contracts for Certain Services—Certification.

\_\_\_ (v) [52.223-9](#), with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA—Designated Products (Alternate I only).

\_\_\_ (vi) [52.227-6](#), Royalty Information.

\_\_\_ (A) Basic.

\_\_\_ (B) Alternate I.

\_\_\_ (vii) [52.227-15](#), Representation of Limited Rights Data and Restricted Computer Software.

**(d)** The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR [4.1201](#)); except for the changes identified below [*offeror to insert changes, identifying change by clause number, title, date*]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR CLAUSE #	TITLE	DATE	CHANGE
_____	_____	_____	_____

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of provision)

**L.4. 52.225-18 PLACE OF MANUFACTURE (SEPT 2006)**

(a) *Definitions.* As used in this clause—

“Manufactured end product” means any end product in Federal Supply Classes (FSC) 1000-9999, except—

- (1) FSC 5510, Lumber and Related Basic Wood Materials;
- (2) Federal Supply Group (FSG) 87, Agricultural Supplies;
- (3) FSG 88, Live Animals;
- (4) FSG 89, Food and Related Consumables;
- (5) FSC 9410, Crude Grades of Plant Materials;
- (6) FSC 9430, Miscellaneous Crude Animal Products, Inedible;
- (7) FSC 9440, Miscellaneous Crude Agricultural and Forestry Products;
- (8) FSC 9610, Ores;
- (9) FSC 9620, Minerals, Natural and Synthetic; and
- (10) FSC 9630, Additive Metal Materials.

“Place of manufacture” means the place where an end product is assembled out of components, or otherwise made or processed from raw materials into the finished product that is to be provided to the Government. If a product is disassembled and reassembled, the place of reassembly is not the place of manufacture.

(b) For statistical purposes only, the offeror shall indicate whether the place of manufacture of the end products it expects to provide in response to this solicitation is predominantly—

- (1)  In the United States (Check this box if the total anticipated price of offered end products manufactured in the United States exceeds the total anticipated price of offered end products manufactured outside the United States); or
- (2)  Outside the United States.

**L.5 AUTHORIZED CONTRACT ADMINISTRATOR**

If the offeror does not fill-in the blanks below, the official who signed the offer will be deemed to be the offeror's representative for Contract Administration, which includes all matters pertaining to payments.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

**L.6 652.228-70 DEFENSE BASE ACT – COVERED CONTRACTOR EMPLOYEES  
(JUN 2006)**

(a) Bidders/offerors shall indicate below whether or not any of the following categories of employees will be employed on the resultant contract, and, if so, the number of such employees:

<b>Category</b>	<b>Yes/No</b>	<b>Number</b>
<i>(1) United States citizens or residents</i>		
<i>(2) Individuals hired in the United States, regardless of citizenship</i>		
<i>(3) Local nationals or third country nationals where contract performance takes place in a country where there are no local workers' compensation laws</i>		<i>Local nationals: _____</i> <i>Third Country Nationals: _____</i>
<i>(4) Local nationals or third country nationals where contract performance takes place in a country where there are local workers' compensation laws</i>		<i>Local nationals: _____</i> <i>Third Country Nationals: _____</i>

(b) The contracting officer has determined that for performance in the country of Iraq

Workers' compensation laws exist that will cover local nationals and third country nationals.

Workers' compensation laws do not exist that will cover local nationals and third country nationals.

(c) If the bidder/offeror has indicated "yes" in block (a)(4) of this provision, the bidder/offeror shall not purchase Defense Base Act insurance for those employees. However, the bidder/offeror shall assume liability toward the employees and their beneficiaries for war-hazard injury, death, capture, or detention, in accordance with the clause at FAR 52.228-4.

(d) If the bidder/offeror has indicated "yes" in blocks (a)(1), (2), or (3) of this provision, the bidder/offeror shall compute Defense Base Act insurance costs covering those employees pursuant to the terms of the contract between the Department of State and the Department's Defense Base Act insurance carrier at the rates specified in DOSAR 652.228-74, Defense Base Act Insurance Rates – Limitation. If DOSAR provision 652.228-74 is not included in this solicitation, the bidder/offeror shall notify the contracting officer before the closing date so that the solicitation can be amended accordingly.

**L.7. 52.225-25 Prohibition on Contracting with Entities Engaging in Sanctioned Activities Relating to Iran—Representation and Certification. (Nov 2011)**

(a) *Definitions.*

“Person”—

(1) Means—

(i) A natural person;

(ii) A corporation, business association, partnership, society, trust, financial institution, insurer, underwriter, guarantor, and any other business organization, any other nongovernmental entity, organization, or group, and any governmental entity operating as a business enterprise; and

(iii) Any successor to any entity described in paragraph (1)(ii) of this definition; and

(2) Does not include a government or governmental entity that is not operating as a business enterprise.

“Sensitive technology”—

(1) Means hardware, software, telecommunications equipment, or any other technology that is to be used specifically—

(i) To restrict the free flow of unbiased information in Iran; or

(ii) To disrupt, monitor, or otherwise restrict speech of the people of Iran; and

(2) Does not include information or informational materials the export of which the President does not have the authority to regulate or prohibit pursuant to section 203(b)(3) of the International Emergency Economic Powers Act ([50 U.S.C. 1702](#)(b)(3)).

(b) The offeror shall e-mail questions concerning sensitive technology to the Department of State at [CISADA106@state.gov](mailto:CISADA106@state.gov).

(c) Except as provided in paragraph (d) of this provision or if a waiver has been granted in accordance with [25.703-4](#), by submission of its offer, the offeror—

(1) Represents, to the best of its knowledge and belief, that the offeror does not export any sensitive technology to the government of Iran or any entities or individuals owned or controlled by, or acting on behalf or at the direction of, the government of Iran; and

(2) Certifies that the offeror, or any person owned or controlled by the offeror, does not engage in any activities for which sanctions may be imposed under section 5 of the Iran Sanctions Act. These sanctioned activities are in the areas of development of the petroleum resources of Iran, production of refined petroleum products in Iran, sale and provision of refined petroleum products to Iran, and contributing to Iran's ability to acquire or develop certain weapons or technologies.

(d) *Exception for trade agreements.* The representation requirement of paragraph (c)(1) and the certification requirement of paragraph (c)(2) of this provision do not apply if—

(1) This solicitation includes a trade agreements notice or certification (*e.g.*, [52.225-4](#), [52.225-6](#), [52.225-12](#), [52.225-24](#), or comparable agency provision); and

(2) The offeror has certified that all the offered products to be supplied are designated country end products or designated country construction material.

(End of provision)