

2. AMENDMENT/MODIFICATION NO. W91278-06-R-0082-0004	3. EFFECTIVE 14 AUG 2006	4. REQUISITION/PURCHASE W31XNJ61666817	5. PROJECT NO. (If applicable) MB06AA51
6. ISSUED BY CODE		7. ADMINISTERED BY (If other than item 6) CODE	
Corps of Engineers 109 St. Joseph St. Mobile, AL 36602			

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code)	<input checked="" type="checkbox"/>	9A. AMENDMENT OF SOLICITATION NO. W91278-06-R-0082
		9B. DATED (SEE ITEM 11) 11 JULY 06
	<input type="checkbox"/>	10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE		FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. **FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.** If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified. letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

<input type="checkbox"/>	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b)
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)

The subject solicitation for **DESIGN BUILD FOR HAP CLINIC, MONTEVIDEO, URUGUAY**

Is modified in the following: **REFER TO THE ENCLOSED REVISED SPECIFICATION REVISIONS FOR AMENDMENT NO. 4**
NOTE: REFER TO THE NEW PROPOSAL DUE DATE IN THE ENCLOSED FORM SF1442.

Except as provided herein, all terms and conditions of the document reference in item 9A or 10A, as Heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICE (Type or print)
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA BY	16C. DATE SIGNED
(Signature of person authorized to sign)	(Signature of contracting officer)

PART I-REVISIONS MADE BY ADDED AND/OR REPLACEMENT PARAGRAPHS/PAGES/SECTIONS

The items listed below are to be replaced by the corresponding added and/or revised paragraphs/pages or sections. Added and/or revised paragraphs/pages or sections are indicated by a note in bottom right hand corner of each paragraph or page. Added sections are hereby made a part of the contract and are to be inserted in the specification in the proper numerical/alphabetical sequence.

Within the specifications, deletions from the specifications are indicated by strikethrough, e.g.: ~~deletions are marked with strikethrough~~ and additions to the specifications including revisions/substitutions are indicated in bold, italic and underlined, e.g.: **additions are indicated thus.**

<u>SECTION</u>	<u>Corresponding Added or Revised Paragraph Page, and/or Section</u>
SF1442 SOLICITATION, OFFER AND AWARD FORM	Revised as indicated in Block 13A.
00100	Deleted paragraphs 952.000-4273, 952.000-4273-A, 952.000-4273-B, 52.228-14, and 952.000-4273C
00700	Revised paragraph 952.000-4233
01010	Added paragraph 3.4.1, revised paragraph 3.6.2.1, revised paragraph 3.7.4.1, and added paragraph 3.7.8.1

Encl as stated

Revised, added, and deleted paragraphs of the specifications as indicated in Part I.

SOLICITATION, OFFER AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NO. W91278-06-R-0082	2. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 11 JULY 06	PAGES OF PAGES 1 OF 2

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

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO. W31XNJ61666817	6. PROJECT NO. MB06AA51
7. ISSUED BY U.S. ARMY ENGINEER DISTRICT, MOBILE CONTRACTING DIVISION (CESAM-CT) (109 ST. JOSEPH ST. 36602) P.O. BOX 2288 MOBILE, AL 36628-0001	CODE CT	8. ADDRESS OFFER TO SAME AS BLOCK 7 IF HAND CARRIED, DELIVER TO ROOM 6000; ***** or to THE GSO AT THE U.S. EMBASSY EMBAJADA DE EEUU OFICINA DE COOPERACION DE DEFENSA AV LAURO MULLER 1776 CP11200 MONTEVIDEO URUGUAY
9. FOR INFORMATION CALL :	A. NAME	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS)

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):

**DESIGN BUILD FOR HAP CLINIC
MONTEVIDEO, URUGUAY**

*Block 13A. : Refer to Section 00110 for the number of copies to submit with the original offer.

BLOCK 13.A – PROPOSAL DUE DATE, REVISED BY AMENDMENT NO. 4

11. The Contractor shall begin performance within 8 calendar days and complete it within 300 calendar days after receiving
 award, notice to proceed. This performance period is mandatory, negotiable. (See _____.)

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

A. Sealed offers in original and ___*___ copies to perform the work required are due at the place specified in Item 8 by 1400 (hour) local time **24 AUGUST 2006** (date). 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.

B. An offer guarantee is, is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 120 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)

15. TELEPHONE NO. (Include area code)

16. REMITTANCE ADDRESS (Include only if different than Item 14)

CODE

FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement

AMOUNTS

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

19. ACKNOWLEDGMENT OF AMENDMENTS

(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER
(Type or print)

20B. SIGNATURE

20C. OFFER DATE

AWARD (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

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

10 U.S.C. 2304(c) ()

41 U.S.C. 253(c) ()

26. ADMINISTERED BY

CODE

27. PAYMENT WILL BE MADE BY

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

28. NEGOTIATED AGREEMENT (contractor is required to sign this document and return _____ 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 stated 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 incorporated by reference in or attached to this contract.

29. AWARD (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.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)

31A. NAME OF CONTRACTING OFFICER (Type or print)

30B. SIGNATURE

30C. DATE

31B. UNITED STATES OF AMERICA
BY

31C. AWARD
DATE

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~~952.000 4273 BID GUARANTEE (APR 2002) FAR 52.228 1 (SEPT 1996)~~

- ~~(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.~~
- ~~(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, bank guarantee (paragraph 952.000 4273a), irrevocable letter of credit (ILC) (952.000 4273b or 52.228 14, as appropriate), or, under Treasury Department regulations, certain bonds or notes of the United States (i.e. Treasury Bond, see paragraph 952.000 4273c). An ILC from a financial institution located outside the United States must be confirmed by a U.S. Bank.~~
- ~~(c) The amount of the bid guarantee shall be five percent of the bid price or \$3,000,000, whichever is less.~~
- ~~(d) The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds, as required by the bid as accepted.~~
- ~~(e) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.~~
- ~~(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.~~
- ~~(f) All forms of guarantee, and all supporting documents, i.e., Powers Of Attorney, must be in English.~~
- ~~(g) All monetary amounts must be expressed in U.S. dollars and cents.~~

~~952.000 4273A BID GUARANTEE SUPPLEMENT #1 (BANK GUARANTEE) (AUG 2002)~~

- ~~(a) Bank Guarantees that are irrevocable, unconditional and issued by financial institutions acceptable to the Contracting Officer and that are in compliance with and governed by the ICC Publication No. 458, Uniform Rules For Demand Guarantees, will be accepted for contracts under 3,000,000 U.S. dollars.~~
- ~~(b) Bank Guarantees must comply with the payment, extension, assignment, expiration and interruption of business provisions set out in FAR 52.228 14, Irrevocable Letters of Credit.~~
- ~~(c) Bank Guarantees must be accompanied by a Certification or Power Of Attorney properly notarized in accordance with local law, establishing that the person signing on behalf of the guarantor is authorized to bind the guarantor. The Guarantee and Certification or Power Of Attorney must have the same date.~~
- ~~(d) Bank Guarantees must also be accompanied by a "Principal and Guarantor Memorandum" executed by the principal and guarantor. A copy of the memorandum is provided in the solicitation.~~
- ~~(e) All documents must be in English, and all monetary amounts must be expressed in U.S. dollars and cents.~~
- ~~(f) The following format shall be used by the issuing financial institution to create a Bank Guarantee.~~

~~[Issuing Financial Institution's Letterhead/Name and Address]~~

~~BANK GUARANTEE~~

~~Issue Date: _____~~

~~Account Party's Name: [Name of the Contractor's Organization] _____~~

~~Account Party's Address: _____~~

~~Solicitation Number: _____~~

~~Beneficiary: United States Army Corps of Engineers, Mobile District, P.O. Box 2288,
Mobile, Alabama 36628 0001~~

~~1. The undersigned hereby provides this irrevocable and unconditional guarantee in favor of the United States Army Corps of Engineers, Mobile District, in the amount of \$[Amount], guaranteeing the bid of [Account Party's name] for the [Name of Project] at [Work location and country].~~

~~2. This guarantee expires with our close of business on _____, or any automatically extended expiration date. We hereby undertake to honor the beneficiary's demand for payment of the guarantee amount at any time before the expiration date, or any automatically extended expiration date. Demand for payment can be made at [Issuing financial institution's office] at [Issuing financial institution's address].~~

~~3. This guarantee is transferable and assignable by the beneficiary. Transfer and assignments of proceeds are to be effected without charge to either the beneficiary, or the transferee/assignee. Such transfer or assignment shall be only at the written direction of the beneficiary in a form satisfactory to the guarantor. This guarantee is not transferable or assignable by the guarantor.~~

~~4. If this guarantee expires during an interruption of the business of the guarantor, the guarantor specifically agrees to effect payment in the event of demand therefore by the beneficiary, within 30 days after the resumption of business.~~

~~5. In the case of any dispute between or among the guarantor, the principal contractor, and/or the beneficiary arising out of the principal contract or this guarantee, the decision of which requires considerations of questions of law, the rights and obligations of the parties shall be interpreted and determined in accordance with the substantive laws of the United States before the appropriate forum located within the United States.~~

~~6. Certification that the signatory hereto is an authorized representative of the guarantor is noted below, or attested in a separate and attached Power Of Attorney, drafted in English, and properly notarized in accordance with local law. The Principal and Guarantor Memorandum, signed by authorized representatives of the principal and guarantor, is at Enclosure 1.~~

~~Sincerely,
[Name of guarantor's representative]
[Name of Issuing Financial Institution/Guarantor]~~

~~CERTIFICATION~~

~~[Country/State/Province]
[Parish/County/City/Township]~~

~~I, the undersigned, do hereby affirm and verify that I am a duly commissioned, qualified, and authorized notary public in and for the [name of appropriate Political~~

~~SECTION 00100~~

~~Subdivision], and that [Name of guarantor's representative], who is personally well known to me, appeared before me this day and executed the foregoing Bank Guarantee, as a duly authorized representative of the issuing financial institution, after the contents thereof had been read and duly explained to him/her, and acknowledged that the execution of said instrument on behalf of the issuing financial institution by him/her was his/her free and voluntary act and deed for the uses and purposes therein set forth.~~

~~IN WITNESS WHEREOF, I hereunto set my hand and affix my official seal this ____ day of _____, 200__.~~

~~NOTARY PUBLIC~~

~~My Commission Expires:~~

~~_____
(date)~~

~~Encl~~

~~1 Principal and Guarantor Memorandum~~

~~(End of clause)~~

~~952.000 4273B BID GUARANTEE SUPPLEMENT #2 (IRREVOCABLE LETTER OF CREDIT)(APR 2002)~~

~~Irrevocable Letter of Credit From a Financial Institution Located Outside the United States:~~

~~(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a local financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/contractor can revoke or condition the letter of credit.~~

~~(b) If the offeror intends to use an ILC in lieu of a bid guarantee, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.~~

~~(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued by an acceptable, local financial institution, and confirmed by a federally insured financial institution as provided in paragraph (d) of this clause, and shall expire no earlier than 60 days after the close of the bid acceptance period;~~

~~(d) Only federally insured financial institutions rated investment grade or higher shall confirm the ILC. The offeror/contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than \$25 million in the past year, ILCs over \$5 million must be confirmed by another federally insured financial institution that had letter of credit business of at least \$25 million in the past year.~~

~~(e) The following format shall be used by the issuing financial institution to create an ILC:~~

~~{Issuing Financial Institution's Letterhead or Name and Address}~~

Issue Date _____

~~IRREVOCABLE LETTER OF CREDIT NO. _____~~

~~Account party's name _____~~

~~Account party's address _____~~

~~For Solicitation No. _____ (for reference only)~~

~~TO: [U.S. Government agency]~~

~~[U.S. Government agency's address]~~

~~1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$ _____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.~~

~~2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.~~

~~3. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.~~

~~4. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500.~~

~~5. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.~~

~~6. In the case of any dispute between or among the guarantor, the principal contractor, and/or the beneficiary arising out of the principal contract or this guarantee, the decision of which requires considerations of questions of law, the rights and obligations of the parties shall be interpreted and determined in accordance with the substantive laws of the United States before the appropriate forum located within the United States.~~

~~Sincerely,~~

~~_____
{Issuing financial institution}~~

~~(f) The following format shall be used by the confirming financial institution, a qualified United States Bank:~~

~~_____
{Confirming Financial Institution's Letterhead or Name and Address}~~

~~(Date) _____~~

~~Our Letter of Credit Advice Number _____~~

~~Beneficiary: _____ [U.S. Government agency]~~

~~Issuing Financial Institution: _____~~

~~Issuing Financial Institution's LC No.: _____~~

~~Gentlemen:—~~

~~1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ [name of issuing financial institution] for drawings of up to United States dollars _____ /U.S. \$ _____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.—~~

~~2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.~~

~~3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.—~~

~~4. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].—~~

~~5. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.—~~

~~Sincerely,—~~

~~_____
[Confirming financial institution]~~

~~(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:—~~

~~SIGHT DRAFT—~~

~~_____~~

~~[City, State]—~~

~~(Date) _____~~

~~[Name and address of financial institution]—~~

~~Pay to the order of _____ [Beneficiary Agency] _____ the sum of United States \$ _____. This draft is drawn under Irrevocable Letter of Credit No. _____.~~

~~_____
[Beneficiary Agency]~~

~~By: _____~~

~~Irrevocable Letter of Credit from Financial Institution Located Within the United~~

States:

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

~~(a) "Irrevocable letter of credit" (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.~~

~~(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (c) and (f) of this clause shall be used.~~

~~(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and~~

~~(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period,~~

~~(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:~~

~~(i) For contracts subject to the Miller Act, the later of~~

~~(A) One year following the expected date of final payment,~~

~~(B) For performance bonds only, until completion of any warranty period, or~~

~~(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one year period following final payment.~~

~~(ii) For contracts not subject to the Miller Act, the later of~~

~~(A) 90 days following final payment, or~~

~~(B) For performance bonds only, until completion of any warranty period.~~

~~(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than \$25 million in the past year, ILCs over \$5 million must be confirmed by another acceptable financial institution that had letter of credit business of less than \$25 million in the past year.~~

~~(e) The following format shall be used by the issuing financial institution to create an ILC:~~

~~_____~~
~~[Issuing Financial Institution's Letterhead or Name and Address]~~

~~Issue Date _____~~

~~IRREVOCABLE LETTER OF CREDIT NO. _____~~

~~Account party's name _____~~

~~Account party's address _____~~

~~For Solicitation No. _____ (for reference only)~~

~~TO: [U.S. Government agency]~~

~~[U.S. Government agency's address]~~

~~1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States \$ _____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.~~

~~2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.~~

~~3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.~~

~~4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.~~

~~5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution, if any, otherwise state of issuing financial institution].~~

~~6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.~~

~~Sincerely,~~

~~_____~~
~~[Issuing financial institution]~~

~~(f) The following format shall be used by the financial institution to confirm an ILC:~~

~~_____~~
~~[Confirming Financial Institution's Letterhead or Name and Address]~~

~~(Date) _____~~

~~Our Letter of Credit Advice Number _____~~

~~Beneficiary: _____ [U.S. Government agency]~~

~~Issuing Financial Institution: _____~~

~~Issuing Financial Institution's LC No.: _____~~

~~Gentlemen:—~~

~~1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ [name of issuing financial institution] for drawings of up to United States dollars _____ /U.S. \$ _____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.—~~

~~2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.~~

~~3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.~~

~~4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:—~~

~~(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or~~

~~(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.—~~

~~5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].—~~

~~6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.—~~

~~Sincerely,—~~

~~_____~~

~~[Confirming financial institution]~~

~~(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:—~~

~~SIGHT DRAFT—~~

~~_____~~

~~[City, State]—~~

~~(Date) _____~~

~~[Name and address of financial institution]~~

~~Pay to the order of _____ [Beneficiary Agency] _____ the sum of
United States \$ _____. This draft is drawn under Irrevocable Letter of Credit
No. _____.~~

~~[Beneficiary Agency]~~

~~By: _____~~

~~(End of clause)~~

~~End of provision~~

~~*****~~

~~952.000-4273C BID GUARANTEE SUPPLEMENT #3 (TREASURY BOND) (APR 2002)~~

~~(a) To submit a U.S. Treasury Bond (TB) as a Bid Guarantee (BG), the principal must
submit a properly executed SF 24. In the "Obligation" block, the principal must
type, "See Attachment A", referencing the letter from the principal stating that he
is submitting a TB as a BG.~~

~~(b) To the SF 24 the principal must attach:~~

~~(1) A letter stating that he is submitting a TB as a BG (Attachment A). The letter
must include the amount of the TB, the TB number and must be signed by the
principal's authorized representative;~~

~~(2) A Certification or Power Of Attorney attesting to the authority of the person
signing the SF 24 or SF 25 to bind the principal;~~

~~(3) A statement from principal authorizing USACE to collect and sell the TB. The
statement must include the amount of the TB, the TB number and must be signed by the
principal's authorized representative;~~

~~(4) A U.S. Treasury Bond equal at its par value to the penal sum.~~

~~(c) All monetary amounts must be expressed in U.S. dollars and cents.~~

~~(d) All documents must be in English.~~

~~(End of provision)~~

~~*****~~

(Note: The remainder of this section is unchanged by this amendment)

952.000-4233 PERFORMANCE BONDS—CONSTRUCTION (APR 2002)

(a) Definitions. As used in this clause-- "Original contract price" means the award price of the contract or, for requirements contracts, the price payable for the estimated quantity; or for indefinite-delivery type contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Unless the resulting contract price is \$100,000 or less, the successful offeror shall be required to furnish performance bonds to the Contracting Officer. The bond shall be in English and the penal amount of such bond shall be in U.S. dollars and cents and will be as follows:

Performance Bonds (Standard Form 25).

(i) The penal amount of performance bonds shall be ~~ten~~ ~~fifteen~~ percent ~~(15%)~~ (10%) of the original contract price. After final acceptance of the project, the penal amount of the performance bond shall be reduced to five percent (5%) of the contract price for the warranty period.

(ii) The Government may required additional performance bond protection when the contract price is increased. The increase in protection shall generally equal fifteen percent of the increase in contract price.

(iii) The Government may secure additional protection by directing the contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) The contractor shall furnish all executed bonds, including any necessary reinsurance agreements to the Contracting Officer, within the time period specified in Block 12A of the Standard Form 1442 in the solicitation or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) The bonds shall be in the form of firm commitment supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, bank guarantee (paragraph 952.000-4233a), irrevocable letter of credit (ILC) (paragraph 952.000-4233b or 52.228-14, as appropriate), or in accordance with Treasury Department regulations, certain bonds or notes of the United States (i.e. Treasury Bond, see paragraph 952.000-4233c). An ILC from a financial institution located outside the United States must be confirmed by a U.S. Bank. Insurance policies are not acceptable. Treasury Circular 570 is published in the Federal Register, or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, N.W., 2nd Floor, West Wing, Washington, DC 20227.

(e) Contractor information concerning Bonds, Powers of Attorney, Assignments of Claims and general contracting procedures is available in English and Spanish at the Corps of Engineers Project Office. Any questions concerning the acceptability of Bid Bonds and Performance Guarantees should be addressed through the Corps of Engineers Project Office to the Contracting Officer.

(f) The Contractor shall respect and abide by host country law concerning payments to all persons supplying labor or materials in prosecution of work provided under this contract.

(g) The cost of obtaining performance guarantees must be included in the total bid price specified on the Bid Schedule.

(h) All documents must be in English.

(i) All monetary amounts must be expressed in U.S. dollars and cents.

(End of provision)

(Note: The remainder of this section is unchanged by this amendment)

SECTION 01010

1. PROJECT DESCRIPTION

1.1. BACKGROUND

1.1.1. The Medical Clinic will offer basic medical and dental care to the local population of Barrio Santa Catalina, near Montevideo, Uruguay. According to COE requirements, it has been decided to construct a building that complies as well the organization as the technical objects, giving to the approximately 50 workers a comfortable environment to work in.

1.2. LOCATION

1.2.1. The project is located in Montevideo, Uruguay. Montevideo is situated in the south of the country, at the northern mouth of the very wide River Plate (Río de la Plata) estuary. The geographic coordinates of Montevideo are 34.5° S, 56°W. Uruguay has a temperate climate characterized by warm summers and mild winters. Rainfall is fairly evenly distributed throughout the year with an average annual precipitation of 1,090 mm (36 inches). The coolest month is June and the warmest is January. The prevailing winds are a northerly hot wind that blows in summer and a cold southerly wind that blows in winter. Average temperatures in Montevideo range from 6 to 14 degrees Celsius (43 to 57 degrees Fahrenheit) in July to 17 to 28 degrees Celsius (63 to 82 degrees Fahrenheit) in January. The population is about 1,300,000 people.

1.3. SITE

1.3.1. The site is located west of Montevideo in Barrio Santa Catalina on Burdeos Street. Burdeos Street, an unpaved road approximately 5 m wide. The land for the clinic has an area of approximately 2,000 m². The land slopes from the South side down to the northeast corner, with a difference of elevation of approximately 2.0m. Currently the vegetative cover on the site is grass.

1.4. PURPOSE

1.4.1. The purpose of this specification section is to describe the requirements for appearance, function, and equipment, materials, and types of construction in sufficient detail to enable engineering and design to be completed by the Contractor. In this specification section, each engineering and design discipline describes design intent and outlines the parameters to which the Contractor shall design.

1.4.2. Section 01010 - DESIGN REQUIREMENTS defines the design and performance criteria. The applicable Uruguayan building codes and standards shall be used as the minimum criteria to develop the construction documents for areas of work not specifically defined.

1.4.3. Section 01012 - DESIGN AFTER AWARD defines the format and submittal requirements in which the design and the construction documents shall be prepared by the Contractor.

1.5. GENERAL FACILITY CRITERIA

- 1.5.1. The Medical Clinic will be the primary source of healthcare for the surrounding population. A professional image is required and should be reflected in the facility's functional arrangement and the overall quality of the facility's appearance.
- 1.5.2. The Contractor shall design and construct the Medical Clinic at Barrio Santa Catalina resulting in a complete and useable facility. In order to work within budget constraints, the Contractor shall not design or construct any facilities outside of the 5 foot building line. Procurement of furniture shall not be included in this contract.
- 1.5.3. The Clinic is a one story structure approximately 400 s.m. It shall be concrete masonry unit or locally available brick and reinforced concrete construction as defined in the latest edition of the International Building Code. No asbestos containing materials shall be used in this project.
- 1.5.4. Certain areas of the Clinic shall meet handicap accessibility requirements. The facility shall be provided with fire detection systems and fire extinguishers as required by local building codes.
- 1.5.5. All materials to be used in the construction shall comply with the following requirements (at a minimum):
- Certified quality;
 - Local availability of materials in commercial grades; and
 - Local technical regulations shall be followed.

2. GENERAL DESIGN CRITERIA

2.1. QUALITY OF WORK

- 2.1.1. Construction documents shall be sufficient to afford a clear understanding of the construction work required. The work shall be organized in a manner that will assure thorough coordination between the various details on the drawings, and between the drawings and the specifications. The Contractor shall cross-check all work until all conflicts have been reconciled. The US Army Corps of Engineers, Mobile District Design Manual, current edition, and the Unified Facilities Guide Specifications (UFGS) are available on the internet at: <http://www.sam.usace.army.mil/en/guides/DesMan/desman.htm> and <http://specsintact.ksc.nasa.gov/masters/masters.htm> shall be used as the basis for format and preparation of construction documents.
- 2.1.2. Designer of Record. The Contractor shall identify and have on his staff a Designer of Record for each submittal identified in the Contractor Submittal Register. A Designer of Record may be responsible for more than one submittal. All areas of work shall be accounted for by a listed Designer of Record. Designer of Records shall approve all submittals they are responsible for prior to submittal to the Government.

- 2.1.3. Construction Documents. The Contractor shall prepare complete construction documents for all work designed as required by the RFP. The construction documents to be prepared include, but are not limited to construction drawings, specifications, submittals, and design analyses as required in Section 01012, Design After Award. The Contractor's Designers of Record shall develop construction document technical specifications for all areas of work.
- 2.1.4. All designs and construction document drawings and specifications shall be prepared to comply with the RFP. The technical criteria in this Solicitation and referenced standards represent the minimum quality and quantity acceptable for each proposal. The RFP describes the design work that shall not be changed, and shall be included in the construction documents. All remaining design work shall be performed by the Contractor based on the design criteria as required by the RFP. No deviations from the criteria will be allowed unless prior approval is obtained from the Contracting Officer's Representative. All questions or problems encountered by the Contractor in following criteria shall be promptly submitted with recommendations to the Contracting Officer's Representative for approval.
- 2.1.5. Unified Facilities Guide Specifications (UFGS) shall be edited by the Contractor as necessary to complete the design and provided as submittals at the stages shown in Section 01012. The Contractor's Designers of Record shall develop technical specifications for all areas of work.
- 2.1.6. Industry Standards & Efficient Practices. All work shall be designed and constructed in accordance with the criteria contained herein using industry standard materials and efficient practices. The Contractor shall use materials and equipment accepted within the construction industry. The building design and the materials selected shall be high quality, durable and easily maintained.
- 2.1.7. Responsibility. The Contractor shall be responsible for the professional quality, code compliance, technical accuracy and coordination of all designs, drawings, specifications and other documents or publications upon which the design and construction are based.
- 2.2. COORDINATION BETWEEN THE VARIOUS DISCIPLINES
- 2.2.1. The Contractor shall be responsible for the coordination between design, engineering and construction disciplines in order to fulfil the requirements of this contract and to provide for a complete, integrated and functional design.
- 2.3. ENVIRONMENTAL
- 2.3.1. There is no building demolition in this project, therefore the Government anticipates that the Contractor will NOT be required to remove or dispose of hazardous materials or waste such as asbestos and lead paint during the site preparation phase of this project.

2.3.2. The Contractor shall identify, as a part of the submittals required by this contract, the specific disposal site or sites for any waste materials generated by the Contractor's operations.

2.4. OPERATIONS AND MAINTENANCE

2.4.1. O&M information shall be provided on the following equipment if incorporated in the work: communication and ADP systems, security and intrusion alarm, material handling, photovoltaic, paging, HVAC and any other special systems not otherwise specified.

2.5. CONFLICTS IN CRITERIA

2.5.1. Various codes or code requirements are cited throughout this RFP. Where there is a conflict between the RFP and building codes, the most stringent shall apply. When codes are in conflict, the most stringent shall apply. The code listing is not intended to be a complete list. All work shall be designed and constructed to meet all local Uruguayan codes, standards and laws. Refer to the technical specifications for other standards and references not listed in this specification section. Where the various elements of technical criteria provided in this RFP (drawings and technical specifications) are in conflict, the following priority shall be used to establish precedence:

- Section 01010 Design Requirements
- Technical Specifications
- Criteria Drawings

2.6. CODES, STANDARDS, REGULATIONS AND RECOMMENDED PRACTICES

2.6.1. Unless otherwise specified or noted hereinafter, the construction of all utility work, including site improvements shall conform to Uruguayan and International codes as follows:

- ASTM
- NEC
- IBC
- NEMA
- UL
- ANSI
- ACI American Concrete Institute
- ANSI American National Standards Institute
- ASTM American Society for Testing and Materials Standards
- International Building Code, International Code Council
- International Plumbing Code
- International Building Code
- International Fire Code
- International Mechanical Code

2.6.2. All work shall be designed and constructed in accordance with the criteria contained herein using industry standard materials and efficient practices. The Contractor shall use materials and equipment accepted within the construction industry. The building

design and the materials selected shall be high quality, durable and easily maintained.

3. SPECIFIC ENGINEERING AND DESIGN CRITERIA

3.1. SITE WORK

3.1.1. GENERAL

3.1.1.1. The new clinic shall be located as shown on the Concept Site Plan included in the RFP.

3.1.1.2. All demolition debris shall be removed from the confines of the Site and disposed of in a legal and regulated manner off Government property. The Contractor shall be responsible for all disposal permits and regulations. . No burning operation shall be executed on-site without prior written approval from the Contracting Officer's Representative (COR).

3.1.1.3. The site has public utilities such as: electricity, water distribution system, sanitary sewer system and telephone. The contractor shall be responsible for determining the exact location of utility connections, and obtaining any required permits.

3.1.2. GRADING AND DRAINAGE

3.1.2.1. The Contractor shall confine all work to within the project boundaries indicated on the attached drawings. Under no circumstances may the Contractor perform any work off the property limits unless authorized. To the maximum extent possible, the project site shall have a balanced cut and fill. Fill materials shall be satisfactory for the intended purpose and shall be properly compacted for the Contractor's calculated loads. Borrow materials in excess of that available from site excavations shall be obtained from approved off-site sources, and shall be the Contractor's responsibility. Material excavated from site areas and suitable for re-use may be stockpiled on-site in approved areas as directed. All material stockpiles shall be properly drained and maintained to the satisfaction of the COR. Unsatisfactory materials shall be disposed of off-site at the Contractor's expense. All structures and pipes shall incorporate protective measures to prevent child access. All inlet and manhole structures shall not contain a sump in order to prevent ponded water at the bottom of the structures. If any conditions encountered are not acceptable to the government, these sections will be repaired to the government's satisfaction prior to acceptance.

3.1.2.2. All storm drainage improvements proposed for the project shall be constructed by the Contractor such that ponding or undue concentration of storm water is avoided. Storm drainage shall be designed for a 10-year flood with no ponding or overtopping of roads, drives, parking areas, pedestrian walkways or other improvements. The Contractor's design shall ensure that all 10-year design flows are properly contained within watercourses, channels, swales, etc. The system shall be capable

of passing a 50-year storm with minimal ponding and minor overtopping of roads and structures. Storm drainage shall meet minimum local requirements. All runoff onto the site from adjacent properties shall be included in the storm drainage calculations. At the Contractor's option, runoff and design flows shall be estimated using either locally accepted procedures or one of the following procedures:

Rational Method (RM)

Graphical Peak Discharge Method (GPDM)

U.S. Soils and Conservation Service Technical Release No. 55 (SCS TR55)

Where the RM is utilized, calculations shall be accomplished in Imperial Units. Where SCS TR55 is utilized, Curve Numbers shall be selected that best conform to locally available data. Where locally accepted procedures are utilized, the Contractor shall include a comprehensive description of the method used to estimate flows in the appropriate section of the design analysis.

- 3.1.2.3. Provide positive drainage away from buildings. Drywells are not desired and shall be permitted only on an exception basis. Surface drainage shall flow away from all new and existing buildings. The minimum slope for a grassed area shall be 2% and the minimum slope for a paved area shall be 0.50%. All impervious surfaces shall be properly sloped/graded in accordance with sound design and construction practice and as specified herein. For buildings elevated on structural piling or piers, the Contractor shall slope areas located below and adjacent to building floors such that accumulation of runoff below building areas is averted. Facilities located on slabs shall be provided with a minimum of 150mm of localized drop to surrounding areas. The ground shall slope away from the building at a slope of 5% for a distance of 3.0m from the building. The Contractor's design for drainage at building lines shall be coordinated with architectural drawings such that drip lines and roof water collection gutters and downspouts are properly routed and controlled. Designs submitted, indicating storm water build up at or adjacent to any facility; will be rejected.
- 3.1.2.4. Where drainage flow is interrupted by the proposed drives or sidewalks, drainage shall be conveyed under features by the use of reinforced concrete pipe, encased PVC sidewalk drains, or cast-in-place reinforced concrete box culverts.
- 3.1.2.5. Drainage design shall include features to control erosion and to protect pipe inlet and outlet from excessive drainage. Rip-Rap stone, broken concrete or equivalent energy dissipation structures shall be placed at major outlets or in channel inverts as required to control erosion. Earthen swales with excessive slopes/velocities shall be provided with invert treatments as required to control erosion of materials.

3.1.2.6. Any de-watering operation required to construct the facilities included under this Contract shall be provided at the Contractor's expense. De-watering operations shall be accomplished such that site areas proposed for pavements, foundations, sanitary structures or other improvements are well drained during excavation and backfilling operations. In the event that a sequestered or isolated area of ponded storm or groundwater is encountered, the Contractor shall be responsible for providing a pumping operation capable of draining the affected excavations or trenches. Any required de-watering operation shall be accomplished in accordance with the codes and requirements listed herein and sound engineering and construction practice.

3.1.2.7. Where required for proper site drainage, the Contractor shall provide PVC drains below sidewalks and reinforced concrete pipes under drives and/or any other miscellaneous structure. All PVC sidewalk drains shall be sized for 200% of calculated flows; and shall be fully encased in 1,500 psi cement grout. Entrances and exists to sidewalk drains shall be solid sodded or grassed and maintained by the Contractor until a permanent vegetative cover has been established to the satisfaction of the COR.

3.1.3. WATER DISTRIBUTION SYSTEM

3.1.3.1. The Contractor shall connect to existing water distribution system at the site boundaries, and design and build additional water distribution lines (as required) for the new facility. The new water lines shall be designed and constructed in accordance with the criteria contained herein.

3.1.3.2. The design of the water distribution lines shall provide adequate quantity at sufficient pressure for commercial use. The Contractor shall determine minimum pressures required in accordance with applicable plumbing and fire protection criteria. The water service lines, distribution lines, and appurtenances shall be designed and installed in accordance with the International Plumbing Code and manufacturer's recommended procedures. In addition, the designer shall comply with local regulations that apply. Building supply lines shall be sized to meet peak demands with no more than 10-psi pressure loss between the mains and the building.

3.1.4. WASTEWATER

3.1.4.1. The wastewater collection and conveyance system shall be designed in accordance with local Uruguayan regulations that apply. The Contractor shall design and build a new sanitary sewer service or collection system, if required, that will be connected to the existing gravity sewer system at the boundary of the new Medical Clinic. The new sewer lines shall be laid on adequate slopes in order to obtain the proper cleansing velocities. If gravity flow is unobtainable, a grinder pump or raw water pump lift station with force main system shall be required to tie the new facility to the existing gravity sewer system. The minimum size sewer laterals shall be 6 inch and the

minimum slope of the 6-inch line is 0.6%. Provide a minimum of one lateral per building. Provide a cleanout at the entrance of the lateral to the building. The minimum size sewer main shall be 8 inch and the minimum slope of an 8-inch line is 0.4%. All sewer lines should be P.V.C. pipe unless otherwise approved.

3.1.4.2. The wastewater conveyance system shall comply with all the above requirements and shall be compatible with the wastewater to be conveyed. The materials specified shall withstand the effects of the wastewater and not deteriorate as a result of pollutants in the wastewater.

3.1.4.3. Manholes shall be provided at junctions of gravity sewers and at each change in pipe direction, size or slope. Manholes may be brick, concrete block or cast-in-place concrete. Manholes shall not be located in the roadways or parking lots, but in areas that are readily accessible for operation and maintenance purposes.

3.1.5. PERMITS

3.1.5.1. The Contractor shall determine permit requirements as part of the design process and shall submit draft permit applications as part of the submittal process.

3.1.5.2. The Contractor shall obtain all permits for the project. The approved permit application must be provided to the Contracting Officer's Representative prior to starting construction on any of these activities.

3.2. GEOTECHNICAL

3.2.1. GENERAL

3.2.1.1. The contractor shall be responsible for determination of actual soil conditions present at the site, and design to suit those conditions. It shall be the contractor's responsibility to investigate the subsurface soil conditions, and ground water table beneath final structure locations, and complete the design for the facility using contractor-developed data. The contractor shall be responsible for obtaining all required drilling permits.

3.2.2. BORINGS

3.2.2.1. The contractor shall provide a minimum of one (1) boring per 400 square meters of building footprint or fraction thereof, one (1) boring per 100 linear meters of paved road, and one (1) boring per 2,300 square meters of parking. The contractor shall provide a minimum of one boring at each building site. All borings shall be continuously sampled by a splitspoon sampler in accordance with ASTM D-1586, with samples visually classified at 0.5 meter intervals in accordance with the Unified Soil Classification System (ASTM D 2487). The depth to water (if encountered) shall be recorded. Under buildings, borings shall extend to the depth of 7 meters or refusal, and under roads and/or parking areas, to a depth of 2 meters.

3.2.2.2. The contractor shall obtain soil samples for testing as required for the computation of bearing capacities, settlement calculations, lateral earth pressure calculations, temporary and permanent dewatering designs, etc. A dated drilling log shall be provided for each boring drilled. All borings shall be continuously sampled by a splitspoon sampler and standard penetration blow counts recorded. The approximate elevations and locations of borings drilled shall be provided on each boring log.

3.2.3. REPORT

3.2.3.1. The contractor shall provide his own geotechnical report complete with recommendations specific to the geotechnical design requirements at the site. The report shall include drilling logs, the results of soils test data, and a plan showing the location of each boring as drilled. The contractor shall use the data from his own investigation to provide bearing capacity analyses, settlement calculations, lateral earth pressure calculations, temporary and permanent dewatering designs, and deep foundation design such as piling and/or caissons, as applicable. A copy of the report shall be provided to the Corps of Engineers for review approximately at mid-point of design.

3.3. TOPOGRAPHIC SURVEY

3.3.1. GENERAL

3.3.1.1. The existing topographic data is provided in the concept drawings. The data includes 0.25m contours but does not provide data for the Burdeos Street or a significant area to the North and West of the site. The contractor shall be responsible for verifying elevations and determining any additional required topographical survey data.

3.4. ARCHITECTURAL DESIGN CRITERIA

3.4.1. CODES, STANDARDS, REGULATIONS AND RECOMMENDED PRACTICES:
Unless otherwise specified or noted hereinafter, the construction of the clinic shall conform to the Uruguayan Construction Code and if additional guidance or requirements are required the International Building Code (IBC).

3.4.2. GENERAL

3.4.2.1. Architectural Design Criteria will provide a cost effective design which gives consideration to initial cost, maintenance cost, local materials, safety and quality of life. Building design will be based on the floor plans, elevations, sections and generally of the dimensions shown on the criteria drawings. However, in no case shall the building dimensions be substantially smaller than what is indicated on the criteria drawings. Finished floor elevations for the buildings shall be established by the Contractor to provide positive drainage and to conform with road elevations/site grading/site drainage shown on the criteria drawings on the site grading plans. The

Contractor shall be allowed some flexibility in the design and construction of the buildings in this project; however, in general terms, the project shall be accomplished within the following parameters:

- 3.4.2.2. Specific spaces shall include administrative offices for Health Care Personnel and Assistants, Break Room, Multipurpose Room, Storage Rooms, Reception and Waiting Area, Restrooms, Mechanical and Electrical Rooms, and Medical Examination Rooms.
- 3.4.3. FOUNDATIONS
 - 3.4.3.1. Permanent foundations shall be provided. Footings shall be reinforced concrete.
- 3.4.4. ROOF
 - 3.4.4.1. Roof shall be ~~steel or aluminum 24 gage or thicker panels,~~ sealed concrete. Provide minimum 25 year manufacturer's warranty for panels and sealant. Wood shake, wood shingle, ~~concrete or~~ clay tile, or plastic roofs are not acceptable. ~~Minimum slopes for roofs shall be 5 inches in 12 inches. Flashings made of nonferrous metal shall be provided at all valleys and projections through the roof, and provide drip edges at all eaves. Roof water shall be diverted away from entrances. Splash blocks shall be provided under downspouts not connected to storm drainage system. Heavy duty vinyl gutter and downspouts for each unit shall be provided at all roof eaves where the water will runoff directly onto the ground. Roof framing shall be structural steel with steel joists or cold-formed steel trusses.~~
- 3.4.5. EXTERIOR WALLS and FINISHES
 - 3.4.5.1. Exterior walls shall be 20 cm load bearing concrete masonry unit (cmu) concrete or locally available brick walls. Wood framing shall not be used. Pre-engineered metal building shall not be used. Exterior CMU walls shall have exterior stucco finish (2 coat system) or brick.
- 3.4.6. INTERIOR WALLS AND FINISHES
 - 3.4.6.1. All rooms except for mechanical and electrical rooms shall have 2.5 m ceiling heights unless otherwise indicated. Minimum corridor width shall be 1.2 m. Life Safety analysis shall indicate which partitions must extend to the structural deck above. Interior partitions shall be as indicated in the conceptual floor plan (attached) and constructed of locally available brick, concrete or CMU with plaster finish. Provide fire rating construction per local life safety and fire codes.
- 3.4.7. DOORS
 - 3.4.7.1. All exterior doors and frames shall be painted ~~galvanized hollow metal~~ minimum 4.4 cm thick wood, solid core, flush type matching the adjacent wall color. ~~Exterior doors shall be~~

~~insulated. All exterior and interior hollow metal frames shall be welded type construction. Frames shall be galvanized. Knock down frames shall not be used. Frames shall be field painted. To the maximum extent possible, frames shall wrap around partitions. Frames at masonry walls shall be grout filled.~~ Interior doors shall be minimum 4.4 cm thick wood (paint or natural grade) solid core, flush type. Provide interior thresholds of nonferrous metal, stone, or hardwood where flooring materials or floor levels change. Door hardware shall be provided for all doors. Hardware components shall be commercial grade. Wall mounted door bumpers shall be provided and installed and adequately blocked to protect adjacent walls. All locks shall have key removable type of cores with construction keying capability. Four keys shall be provided for each lock. A key cabinet shall be provided where designated by the user. The entire facility shall be "Master Keyed" with six sets of master keys furnished to the Contracting Officer's Representative.

3.4.8. WINDOWS

3.4.8.1. Single hung aluminum windows matching entry doors shall be used. All windows shall have solid surface sills with a minimum thickness of 1.9 cm and rounded edge. Windows shall be of standard stock dimension and design. Weatherstripping shall be factory applied. Factory standard locks shall be included. Screens windows shall be the window manufacturers standard design for use with the windows being provided.

3.4.8.2. Steel security bars shall be installed over all exterior windows to prevent intrusion by unauthorized personnel.

3.4.9. BREAKROOM

3.4.9.1. In the break room Install a countertop, and base and upper cabinets. Install one stainless steel double basin sink in this counter. Install cabinet doors across shelf spaces on all cabinets. Hardware shall be heavy duty with a finish matching door hardware. Provide outlets and space for GFGI microwave and refrigerator. Provide water supply to refrigerator for an ice maker. Provide power for vending machines.

3.4.10. RESTROOMS

3.4.10.1. Restrooms shall have tile floors, which shall slope uniformly to floor drains. These floors shall be set in a grout bed on a recessed concrete subfloor. Partitions, doors and screens shall be phenolic with stainless steel fittings and hardware. Toilet partitions shall be floor mounted and overhead braced. Urinal screens shall be wall mounted. All restroom accessories shall be stainless steel or brass commercial grade quality products. Each toilet compartment shall have a double roll toilet tissue holder and coat hook on the door. Each handicapped accessible compartment shall have a double roll toilet tissue holder, coat hook on the door and grab bars. Women's toilet compartments shall have sanitary napkin disposal units. Solid surface lavatory bowls shall be set into a continuous solid surface countertop and cabinets with 4-inch

high surrounds. The counter shall have a curved lip, and coved joint with surrounds. Mirrors shall be installed immediately above the surround. Soap dispensers shall be countertop mounted at each lavatory. A duplex ground fault interrupt electrical outlet shall be installed at each lavatory.

3.4.11. MISCELLANEOUS:

3.4.11.1. The Contractor shall provide wall-mounted fire extinguishers in easily accessible locations in the corridor.

3.5. STRUCTURAL DESIGN CRITERIA

3.5.1. GENERAL

3.5.1.1. The Contractor shall be responsible for the structural design or verification of all structural components of the project. Complete structural system for the structural components of the project shall include concrete foundations, columns, floors, and walls, ~~and masonry walls.~~

3.5.1.2. The Structural Engineer shall be responsible for the design of all structural components of the project. Complete structural drawings for these facilities shall include foundations, walls, roof framing (if any), and vertical and lateral load resisting systems. In addition, the Structural Engineer is responsible for the design of all lesser related structures such as utility vaults, pits, screen walls, retaining walls, pipe supports, etc., which may be shown on other disciplines' drawings.

3.5.2. CODES, STANDARDS, REGULATIONS AND RECOMMENDED PRACTICES

3.5.2.1. Structural design (construction and materials) shall comply with the International Building Code, most recent edition and local Uruguayan Code requirements. In case of a conflict between the requirements, the most stringent requirements will govern.

3.5.2.2. Assembly shall be true and plumb and within specified construction tolerances for all alignments represented on the drawings.

3.5.3. DESIGN LOADS

3.5.3.1. Design dead, live and wind loads and load combinations shall be in accordance with IBC and all applicable local codes unless specified otherwise herein. Seismic loads shall be in accordance with the guidance given in the International Building Code. Seismic Site Classification shall be determined by the contractor. A safety factor of 1.5 shall be provided against uplift, sliding, overturning, or flotation.

3.5.4. CONCRETE

3.5.4.1. Concrete shall have a minimum compressive strength at 28 days (f'c) of 3,000 psi, a maximum water-cement ratio of 0.5,

and shall contain 5 to 7 percent entrained air. Fiber reinforced concrete and structural plain concrete shall not be used. Exterior concrete shall have a broom-finished concrete floor surface or other non-slip finish, and shall slope away from the building. All slabs-on-grade shall be a minimum of 10 cm thick Concrete floor slabs to remain exposed to view shall be treated with a hardener/sealer. The flatness of the floors shall be carefully controlled. Slabs-on-grade shall be placed in a checkerboard or lane fashion

- 3.5.4.2. Reinforcing bars shall conform to ASTM A615, Grade 60. Welded wire fabric shall conform to ASTM A185 and be furnished in flat sheets. The minimum concrete cover shall be in accordance with ACI 318. Steel embedded in concrete for such purposes as exterior railing, handrails, fences, and anchor bolts all shall be galvanized steel. All damaged galvanized areas shall be repaired prior to embedment. All piping penetrating the foundations shall be sleeved.

3.5.5. STRUCTURAL STEEL

- 3.5.5.1. Cold-formed steel shall be designed in accordance with the American Iron and Steel Institute, "Specifications for the Design of Cold-Formed Steel Structural Members," latest edition. All cold-formed steel framing shall be formed from steel that conforms to the requirements of ASTM A-653, Grade 33 or higher, having a minimum yield strength of 33 ksi. Minimum uncoated steel thickness shall be 0.0346 inches (20 gage). All cold-formed steel framing, connectors, etc. shall receive a G60 galvanized coating. Studs, both interior and exterior, shall be a maximum of 16-inches on center.
- 3.5.5.2. Cold-formed steel trusses shall be pre-engineered and pre-fabricated in the manufacturer's plant. Trusses constructed on site shall not be accepted. Cold-formed steel trusses shall be constructed from system components specifically manufactured for trusses. Trusses designed and fabricated from standard light gauge framing members shall not be accepted. Manufacturer's standard steel truss members, bracing bridging, blocking, reinforcements, fasteners and accessories for each type of steel farming required, as recommended by the manufacturer for the application indicated and as needed to provide a complete light gauge cold formed steel truss system shall be provided.

3.5.6. BRICK AND MASONRY

- 3.5.6.1. Brick shall conform to Type FBS, ASTM C216, Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale). Brick shall be tested for efflorescence and shall be delivered factory-blended to provide a uniform appearance and color range in the completed wall. Mortar shall conform to ASTM C270, Type S. Ties shall be spaced at a maximum of 24-inches on center vertically and 16-inches on center horizontally. Installation of brickwork shall comply with local codes and locally accepted standards and practices.
- 3.5.6.2. Concrete masonry units (CMU) shall conform to ASTM C90, Specification for Hollow Load-Bearing Concrete Masonry Units.

Mortar shall conform to ASTM C270, Type S. CMU walls shall be reinforced as required to resist all vertical and horizontal loads and shall be laid in running bond. All structural CMU walls (load bearing walls, shear walls, or exterior walls) shall be designed as reinforced masonry, neglecting the tensile strength of masonry. Minimum thickness of structural CMU walls shall be nominal 20 cm. Minimum reinforcement shall be as follows. Minimum bar size shall be #4. One vertical reinforcing bar shall be provided continuously from support to support at each wall corner, at each side of each opening, at each side of control joints, at ends of walls, and elsewhere in the wall panels at a maximum spacing of 121 cm. This minimum reinforcement shall be the same size as the minimum vertical reinforcement provided for flexural stresses. A minimum of two #5 bars in continuous masonry bond beams shall be provided continuously at floor and roof levels and at the tops of walls. Horizontal reinforcement shall also be provided above and below all wall openings. These bars shall extend a minimum of 40 bar diameters, but not less than 60 cm, past the edges of the opening. Lintel units shall not be used in lieu of bond beam units. Nonstructural masonry walls may be designed as unreinforced masonry. However, the minimum reinforcement around openings, at corners and ends of walls, and at control joints given above for structural walls shall be incorporated.

3.5.7. STUCCO

3.5.7.1. Portland cement stucco shall have integral color. Stucco total surface area shall be divided into panels with control joints spaced no more than 3 m apart. Contractor shall follow manufacturer's installation instructions explicitly and shall certify accurate and correct installation of all stucco type materials.

~~3.5.8. METAL ROOFING~~

~~3.5.8.1. Metal roof deck material shall be galvanized steel and have a minimum thickness of 24 gage. Required section modulus and moment of inertia shall be shown on drawings. If large areas of galvanized roof deck will be exposed to view and is scheduled to be field painted, specify that the underneath side of the roof deck shall be factory cleaned and primed with a paint suitable for the application of the finish coats of paint.~~

3.6. PLUMBING DESIGN CRITERIA

3.6.1. GENERAL

3.6.1.1. Plumbing system shall be designed and installed in accordance with the latest edition International Plumbing Code (IPC). Inspection and testing of the plumbing system shall be performed as prescribed in the Plumbing Code.

3.6.2. CODES, STANDARDS, REGULATIONS AND RECOMMENDED PRACTICES

3.6.2.1. Unless otherwise specified or noted hereinafter, all building construction (Base Bid and all Bid Option(s) awarded) shall conform to ~~Belivian~~ Uruguayan Construction Code, or if local codes are not available, to the following codes, standards, regulations and recommended practices. Latest edition at time of request for proposals shall govern.

- ACI American Concrete Institute
- ANSI American National Standards Institute
- ASTM American Society for Testing and Materials Standards
- AWWA American Water Works Association
- International Building Code, International Code Council
- International Plumbing Code
- International Building Code
- International Fire Code
- International Mechanical Code

3.6.3. WATER DISTRIBUTION

3.6.3.1. All water piping shall be sized in accordance with methods outlined in the IPC, to limit water velocity in the pipe to 2.5 m/sec unless a lower velocity is recommended by the plumbing fixture manufacturer(s). Allowable pipe materials copper tubing and Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe. No water piping runs in exterior walls shall be allowed.

3.6.4. SANITARY SEWER

3.6.4.1. Soil, waste, vent, and drain, piping may be cast iron, copper, steel, or plastic suitable for installation in a commercial waste, soil, vent, and drain system. Each fixture and piece of equipment, except water closets, requiring connection to the drainage system, shall be provided with a trap. Provide deep seal trapped drain for cooling coil condensate drain. Soil, waste, and drain piping installed below floor slabs shall be service weight hub and spigot cast iron or plastic pipe. Building waste main lines shall be no less than 4-inch diameter. All soil, waste, and drain piping shall be sized in accordance with the methods outlined in the National Standard Plumbing Code. An isometric diagram of the sanitary sewer system shall be included in the design submittal.

3.6.4.2. Cleanouts shall be provided at each change in direction of sanitary sewer lines, at the intervals specified in the National Standard Plumbing Code, and at the building service entrance. All cleanouts shall be permanently accessible. Ground cleanouts shall be installed in a 12-inch by 12-inch concrete pad, flush with grade.

3.6.4.3. Floor drains shall consist of a galvanized body, integral seepage pan, and adjustable perforated or slotted chromium-plated bronze, nickel-bronze, or nickel-brass strainer, consisting of grate and threaded collar. Floor drains shall be cast iron except where metallic waterproofing membrane is installed. Drains shall be of double drainage pattern for embedding in the floor construction. The seepage pan shall have

weep holes or channels for drainage to the drainpipe. The strainer shall be adjustable to floor thickness. A clamping device for attaching flashing or waterproofing membrane to the seepage pan without damaging the flashing or waterproofing membrane shall be provided when required. Drains shall be provided with threaded connection. Between the drain outlet and waste pipe, a neoprene rubber gasket conforming to ASTM C 564 may be installed, provided that the drain is specifically designed for the rubber gasket compression type joint. Floor drains shall conform to ASME 112.21.1M. ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS.

3.6.5. FIXTURES

- 3.6.5.1. Fixtures shall be provided complete with fittings, and chromium or nickel-plated brass (polished bright) trim. All shutoff valves shall be metal construction. Plastic valves are not acceptable. All fixtures, fittings, and trim in a project shall be from the same manufacturer and shall have the same finish. All fixtures shall be water conservation type, in accordance with the IPC.
- 3.6.5.2. All vitreous china plumbing fixtures shall conform to ANSI A112.19.2M, Vitreous China Plumbing Fixtures. Stainless steel fixtures shall be in accordance with ANSI A112.19.3M, Stainless Steel Plumbing Fixtures (residential design).
- 3.6.5.3. Toilets shall be standard residential elongated bowl, top tank, floor mounted. Gasket shall be wax type. Seat shall be white plastic, elongated, open front. The maximum water use shall be 1.6 gallons per flush.
- 3.6.5.4. Urinals shall be hanging, with integral trap and extended shields, Top supply connection, back outlet. The maximum water use shall be 1 gallon per flush.
- 3.6.5.5. Lavatories shall be composite-material molded counter top with integral bowl, minimum 48 by 40 cm in size. Lavatories shall have the following accessories:
- 3.6.5.6. Faucet - Faucets shall be single lever, washerless type. Faucets shall have all brass and copper waterways and ceramic valving. The flow shall be limited to 9.5 liters per minute at a flowing pressure of 80 psi.
- 3.6.5.7. Drain - Strainer shall be copper alloy or stainless steel.
- 3.6.5.8. Break Room sink size shall be 80 by 50 cm overall. Sink shall be stainless steel, double bowl. Faucets shall be same as the lavatory faucets in material, but designed for kitchen sink application.
- 3.6.5.9. Water cooler drinking fountains shall be located in close proximity to the public restrooms and break room.
- 3.6.5.10. A water heater shall have round, glass lined tank, and shall be installed with an integral insulating wrap with a

minimum R value of 5. Access shall be provided in the wrap for service and maintenance openings. The water heater relief drain shall be manufacturer approved, and shall discharge to a point outside the building. Electric water heaters shall comply with UL 174, Water Heaters, Household Electric Storage Tank Type.

3.7. ELECTRICAL DESIGN CRITERIA

3.7.1. GENERAL

3.7.1.1. The Medical Clinic shall be provided with electrical power service with adequate capacity, voltage profile and protection. A complete and functional electrical system shall be provided and installed for the Medical Clinic. All materials, equipment, fixtures, and other appurtenances shall comply with the applicable Underwriters' Laboratories, Inc., standards or applicable standards of a similar independent testing organization. The electrical distribution system shall consist of power panel boards with adequate capacity, voltage profile, protection and power/branch circuits as required for facility utilization.

3.7.2. CODES, STANDARDS, REGULATIONS AND RECOMMENDED PRACTICES

3.7.2.1. Unless otherwise specified, dictated by local government standards and conditions, or noted hereinafter, the design, construction and installation of all electrical system equipment, materials, components and devices should conform to Uruguayan Construction Code, or if local codes are not available, to the following codes, regulations, standards and recommended practices. Latest edition at time of request for proposals should govern.

- ANSI American National Standards Institute Standards
- ASTM American Society of Testing and Materials
- EIA Electronic Industries Association
- IEEE Institute of Electrical and Electronic Engineers
- IES Illuminating Engineering Society Lighting Handbook
- IPCEA Insulated Power Cable Engineer's Association
- ISA Instrument Society of America
- NEC National Electrical Code
- NEMA National Electrical Manufacturer's Association
- NESC National Electrical Safety Code
- NFPA National Fire Protection Association Codes and Standards
- TIA Telecommunications Industries Association
- UL Underwriter's Laboratories
- UBC Uniform Building Code

3.7.3. PANELS

3.7.3.1. Surface mounted panels and equipment should only be installed in electrical rooms and mechanical spaces. All panels

installed in normally occupied spaces should be flush mounted. All branch circuits should include a separate equipment ground wire regardless of the type of conduit used.

3.7.4. WIRING

3.7.4.1. Wiring shall be copper conductors only. Aluminum conductors shall not be used. All wiring shall be provided and installed in PVC conduit or electrical metallic tubing as allowed by the Uruguayan Construction Code ~~National Electrical Code~~. Wiring system shall consist of insulated single conductors provided and installed in appropriate conduit. ~~raceways as follows: Galvanized rigid steel conduit or IMC in concrete, masonry and areas subject to moisture; electric metallic tubing (EMT) in concealed areas and exposed where not subject to physical damage and plastic conduit (Type 80 PVC) in the ground and below concrete slabs.~~ Wiring shall be concealed within the walls in all areas except equipment areas. Conduit shall be labeled with source and destination. Empty conduit shall have nylon pull rope installed in it with 10 additional feet of pull rope coiled at each end. A ground conductor shall be provided and installed with all feeders and with all branch circuit wiring to receptacle and equipment. Conductors shall be a minimum size of 12 AWG. UL instruction shall be applied when applying the ampacity tables of National Electrical Code.

3.7.5. RECEPTACLES

3.7.5.1. Each space shall be provided with power receptacles as required for proper facility function. Provide a minimum of one general-purpose NEMA 5-20R, duplex receptacle per wall in each room of the facility per NFPA 60, as required by dedicated equipment, and as a minimum as indicated below. No more than six of these receptacles shall be on a single circuit. In rooms where walls exceed 3 meters in length, provide an additional duplex outlet for each 3 meters of wall or fraction thereof. Receptacle spacing shall not exceed 3 meters.

3.7.6. LIGHTING.

3.7.6.1. Lighting levels for all areas shall use Illuminating Engineers Society (I.E.S.) recommended levels as maximum average maintained levels of illumination. Lighting calculations for each area shall utilize data from the actual fixture to be used. Calculations and layout of fixtures in open office areas shall consider shadowing effects. The engineer designing the lighting system shall maintain uniformity ratios equal to or better than that recommended by the I.E.S. standards. All offices shall be provided with their own light switches. Egress lighting shall comply with Life Safety Code. Electrical Rooms, Mechanical Rooms, Comm Rooms, and Restrooms shall also be provided with emergency lighting. Wall mounted emergency lighting shall not be used

3.7.6.2. Fluorescent lighting systems should be utilized throughout unless noted otherwise with the following energy saving considerations unless noted otherwise:

- Electronic Ballast
- F32T8 lamps
- Highly Reflective Surfaces

3.7.7. TELEPHONE SYSTEM

3.7.7.1. The communications system includes a complete voice communication system consisting of copper wire transmission lines consisting of trunk riser lines and individual station cables and all associated backboards, distribution blocks, hardware, testing, equipment and materials necessary to provide a complete and functional system. The entire telephone system shall be designed with 10% spare capacity for future expansion.

3.7.8. LIGHTNING PROTECTION

3.7.8.1. A conventional lightning protection system shall be designed and provided in accordance with Uruguayan Construction Code. The lightning protection system shall consist of air terminals, ground connections, and grounds, electrically interconnected to form the shortest distance to ground. Conductors shall be electrically continuous from air terminals and roof conductors to grounding electrodes.

3.7.9. GROUNDING

3.7.9.1. Separate grounding electrode systems shall be provided for power, lightning protection, signal, etc. All grounding electrode systems shall have a maximum resistance to ground of 10 ohms and shall be interconnected at a single point. The designer should conduct measurements in a number of areas to determine the number and length of ground rods to provide the required ground resistance at the facility.

-END OF SECTION-